

RULE 270-A IS REVISED

At the annual spring meeting of the American Oil Chemists Society, a recommendation was made by the Seed Analysis Committee to the effect that Rule 270-a of Methods of Chemical Analysis be amended. The revision is in the form of a new section added for the purpose of defining a method for determining the oil and ammonia content of cottonseed. The new section is based on the Malowan method which has been in general use for a number of years, and modifications of the method recently made by C. H. Cox. The entire procedure as recommended to the Society and adopted by it now constitutes Section 2 of the rule, and reads as follows:

Sec. 2. Determination of Oil and Ammonia in Cottonseed.

(a) Apparatus.

Oven. Well ventilated and capable of quickly reaching and maintaining a temperature between 120 to 130 deg. C. Heated by gas or electricity.

Vessel. A porous earthenware vessel, such as a 2½ inch flower pot capable of holding 50-60 grams of seed.

Pipette or burette to measure concentrated hydrochloric acid.

Grinding Mill. A mill with plates suitable for grinding treated seed to pass 30-mesh sieve.

(b) Process.

Absorb into the inner walls and bottom of the flower pot 1.5-2.0 cc. concentrated hydrochloric acid, then loosely fill the pot with 50-60 grams of cleaned seed.

Place in oven heated to 120-130 deg. C. and maintain at this temperature for one hour or until the seed are dry enough to grind well. When seed are properly treated they do not have a burned or charred appearance but the lint is brittle and disintegrates completely on grinding so that the ground seed is free from any appearance of lint or fibre and contain from 3.7% moisture.

When seed are removed from the oven they are cooled to room temperature and ground on any suitable mill to pass a 30-mesh sieve.

Analysis of the ground material is made by the Official Method for Moisture, Oil and Ammonia in cottonseed meal, except that the oil determination is given a four (4) hour extraction. It is suggested that the usual weight be used for ammonia; 4-5 grams for oil, and 5 grams for moisture.

(c) Calculation of Analysis.

A moisture determination is made by the Official Method on the original sample of seed at the time of receipt and the figures obtained for oil

and ammonia on the partially dried sample calculated back to the original basis by a factor derived from the following formula:

M equals Moisture in original seed.

P equals Moisture in partially dried seed.

F equals Factor to multiply by to reduce to original moisture basis. (100 minus M) divided by (100 minus P) equals F.

It is suggested that the percentage of available ammonia in the seed be reported by subtracting 0.2 from the total percentage, this being the approximate average percentage of ammonia in the seed that is lost in the hulls produced.

It is also suggested that for the sake of uniformity all laboratories calculate "Available Oil" by subtracting from the total oil a weight of oil based on a standard of 80 (Ammonia multiplied by .8 equals Oil), as applied on the weight of cake obtained from the "Available Ammonia" in the seed.

Example: Seed containing 3.75% Available Ammonia and 19.00% Oil and calculation is based on making 937 pounds of 8% Ammonia cake. A standard of 80 is equivalent to 6.40% oil in cake or 60 pounds. The available oil, clean seed basis, is therefore 320 pounds.

STATISTICS OF FATS AND OILS

The Department of Commerce announces that the factory production of fats and oils (exclusive of refined oils and derivatives) during the three-month period ended March 31, 1926, was as follows: Vegetable oils, 876,905,865 pounds; fish oils, 7,376,535 pounds; animal fats, 578,252,552, pounds, and grease, 88,800,914 pounds; a total of 1,551,335,866 pounds. Of the several kinds of fats and oils covered by this inquiry, the greatest production 567,614,937 pounds, appears for cottonseed oil. Next in order is lard with 462,365,154 pounds; linseed oil with 194,607,038 pounds; tallow with 113,509,554 pounds; coconut oil with 63,088,814 pounds; and corn oil with 33,929,759 pounds.

The production of refined oils during the period was as follows: Cottonseed, 500,921,044 pounds; coconut, 47,406,521 pounds; peanut, 2,170,164 pounds; corn, 25,206,201 pounds; and palm-kernel, 2,067,437 pounds. The quantity of crude oil used in the production of each of these refined oils is included in the figures of crude consumed.

The data for the factory production, factory consumption, imports, exports and factory and warehouse stocks of fats and oils and for the raw materials used in the production of vegetable oils for the three-month period appear in the following statements:

Production, Consumption, and Stocks of Fats and Oils

(In some cases, where products were made by a continuous process, the intermediate products were not reported.)

Kind	Factory operations for the		Factory and
	Production	Consumption	Warehouse
VEGETABLE OILS ¹	(pounds)	(pounds)	Stocks March 31, 1926 (pounds)
Cottonseed, crude	567,614,937	592,700,391	90,620,925
Cottonseed, refined	500,921,044	318,670,306	303,678,337
Peanut, virgin and crude	4,000,808	2,791,179	1,115,134
Peanut, refined	2,170,164	2,244,159	1,179,058
Coconut, or copra, crude	63,088,814	87,039,268	62,692,374
Cocanut, or copra, refined	47,406,521	45,877,228	12,697,563
Corn, crude	33,929,759	32,035,355	10,266,368
Corn, refined	25,206,201	4,107,166	12,031,492
Soya-bean, crude	990,464	1,377,911	5,537,774
Soya-bean, refined .....	.....	1,389,749	1,052,115
Olive, edible	1,011,218	293,944	8,067,946
Olive, inedible	17,840	2,457,224	3,375,818
Sulphur oil, or olive foots .....	.....	8,372,503	5,204,280
Palm-kernel, crude .....	.....	24,212,692	25,342,941
Palm-kernel, refined	2,067,437	4,090,186	276,806
Rapeseed	73,100	3,250,293	4,589,237
Linseed	194,607,038	98,904,529	190,421,194
Chinese wood or tung .....	.....	20,449,055	35,822,084
Chinese vegetable tallow .....	.....	514,368	50,480
Castor	11,209,205	4,819,233	6,067,169
Palm .....	.....	29,563,593	31,373,958
All other	362,682	1,844,388	4,168,830

FISH OILS: (1)

Cod and cod-liver	131,355	3,088,875	4,284,966
Menhaden		11,319,094	17,059,000
Whale		13,149,187	8,676,030
Herring, including sardine	7,100,640	4,333,637	4,018,924
Sperm		327,004	769,362
All other, (including marine animal) ..	144,540	256,382	648,099

ANIMAL FATS:

Lard, neutral	15,913,449	6,544,694	6,282,858
Lard, other edible	446,451,705	3,353,936	95,134,637
Tallow edible	13,529,544	9,184,851	4,467,188
Tallow, inedible	99,980,010	106,480,592	79,235,769
Neat's-foot oil	2,377,844	1,423,361	1,384,688

GREASES:

White	20,943,721	8,200,274	8,685,316
Yellow	16,886,299	22,092,725	8,710,467
Brown	8,950,926	7,673,657	6,188,283
Bone	4,293,941	672,251	1,005,248
Tankage	13,066,913	622,170	2,959,322
Garbage or house	16,956,326	22,205,745	8,647,047
Wool	1,319,970	1,391,933	2,418,200
Recovered	3,752,615	1,680,917	1,041,879
All others	2,630,203	1,437,690	2,126,817

OTHER PRODUCTS:

Lard compounds and other lard substitutes	288,784,907	72,065	16,660,177
Hydrogenated oils	102,521,486	101,054,686	16,855,551
Stearin, vegetable	3,679,204	6,106,406	1,829,649
Stearin, animal, edible	20,628,523	13,077,755	8,299,069
Stearin, animal, inedible	8,413,300	4,663,710	2,955,129
Oleo oil	40,616,480	11,772,055	11,541,871
Lard oil	9,474,469	4,997,232	4,353,208
Tallow oil	2,594,485	2,280,051	1,830,724
Fatty acids	30,907,333	28,158,058	3,959,501
Fatty acids, distilled	13,785,942	14,767,948	2,069,388
Red oil	12,202,776	7,136,716	7,844,188
Stearic acid	8,215,189	2,630,139	3,589,829
Glycerin, crude 80% basis	28,903,966	33,487,739	7,663,462
Glycerin, dynamite	10,543,997	8,905,996	7,076,646
Glycerin, chemically pure	16,436,489	1,568,459	4,243,421
Cottonseed foots, 50% basis	170,327,343	117,154,135	42,134,095
Cottonseed foots, distilled	35,057,784	35,981,013	13,819,637
Other vegetable oil foots	9,135,855	6,228,070	2,637,863
Other vegetable oil foots, distilled	447,419	265,268	466,721
Acidulated soap stock	64,040,871	21,449,662	46,223,574
Miscellaneous soap stock	4,217,130	2,888,479	4,475,350

Raw Materials Used in the Manufacture of Vegetable Oils—Tons of 2,000 lbs.

Kind	Consumed		Kind	Consumed	
	January 1 to Mar. 31	On hand Mar. 31		January 1 to Mar. 31	On hand Mar. 31
Cottonseed	1,959,462	415,277	Corn germs	64,880	589
Peanuts	4,578	1,290	Flaxseed	298,231	97,227
Peanuts in the hull	2,073	135	Castor beans	12,904	4,485
Copra	48,520	6,225	Mustard seed	327	936
Coconuts and skins	1,033	97	Soya-beans	3,873	1,980
Rape seed	160	30	Olives	3,207	30
			Other kinds	334	757

¹ The data of oils produced, consumed and on hand by fish oil producers and fish cannery were collected by the Bureau of Fisheries.

Imports of Foreign Fats and Oils, Quarter Ended Mar. 31, 1926

Kind	Pounds	Kind	Pounds
Whale oil	2,577,982	Palm-kernel oil	34,440,753
Cod and cod-liver oil.....	4,854,120	Peanut oil	836,769
Other fish oils	4,594,155	Rape oil	6,199,035
Beef and hog fats.....	8,053,769	Linseed oil	4,272,062
Wool grease	3,823,503	Sesame oil	1,516,056
Grease & oils, n.e.s. (value)..	111,496	Soya-bean oil	6,010,101
Chinese wood oil or nut oil...	23,754,435	Vegetable tallow	469,218
Coconut oil	54,666,396	Vegetable wax	2,217,511
Olive oil, edible	17,478,937	Other vegetable oils.....	4,790,296
Sulphur oil, or olive foots ..	9,985,327	Glycerin, crude	8,775,533
Olive oil, denatured.....	3,201,176	Glycerin, refined	1,669,353
Palm oil	34,688,841		

Exports of Foreign Fats and Oils, Quarter Ended Mar. 31, 1926

Kind	Pounds	Kind	Pounds
Beef and hog fats.....	15,575	Olive oil, edible	55,681
Fish oils	64,280	Palm & palm-kernel oil....	978,850
Other animal oils, fats and greases	10,109	Peanut oil	14,067
Chinese nut oil	940,868	Soya-bean oil	182,600
Coconut oil	580,993	Other vegetable oils	36,954
		Vegetable wax	152,760

Exports of Domestic Fats and Oils, Quarter Ended Mar. 31, 1926

Kind	Pounds	Kind	Pounds
Oleo oil	22,479,093	Stearic acid	252,599
Neat's-foot oil	223,543	Other animal greases, oils, and fats	13,732,171
Other animal oils	230,986	Coconut oil	3,392,196
Fish oils	110,688	Cottonseed oil, crude.....	13,623,709
Oleo stock	2,466,530	Cottonseed oil, refined	4,681,858
Tallow	1,713,095	Linseed oil	481,457
Lard	206,285,197	Soya-bean oil	188,981
Lard, neutral	5,097,905	Corn oil	558,512
Lard compound, containing animal fats	4,247,758	Vegetable oil lard compound.	2,371,093
Olco & lard stearin	1,817,841	Vegetable soap stock.....	2,942,945
Grease stearin	305,971	Other vegetable oils and fats.	1,418,307
Oleic acid, or red oil.....	132,027	Glycerin	212,412