

Smalley Foundation Analytical Results

*Report on Cooperative Cottonseed Meal Analyses
Conducted by American Oil Chemists' Society, 1930-31*

By A. W. PUTLAND, *Chairman*

THE tables attached to this report summarize the results of the cooperative analytical program of the Smalley Foundation for the past year. The program was concluded, as usual, with thirty samples. There were 99 collaborators participating, as compared to 96 for the season 1929-1930, and 102 for the season 1928-1929.

In Table No. 1 we show the standing of the 45 collaborators who reported oil determinations on all samples. In the two preceding years 45 and 46, respectively, reported oil determinations on all the samples.

Table No. 2 shows the standing of the 71 collaborators who reported ammonia results on all samples. This number compares with 75 and 74, respectively, for the two preceding seasons.

Table No. 3 gives the average for both oil and ammonia for the 45 collaborators who reported on both oil and ammonia on all samples. In the two preceding seasons 45 and 46 collaborators reported oil and ammonia on all samples.

The winning collaborators are as follows:—

The Battle Cup for the highest efficiency in the determination of both oil and ammonia on all samples is awarded to Analyst No. 19, Dr. W. F. Hand, State Chemist, Mississippi A. and M. College, whose average is 99.889 per cent. The average efficiency is slightly less than that of last year obtained by the Southwestern Laboratories with an average efficiency of 99.95½ per cent, but somewhat higher than that obtained by the winner the year previous. The certificate for second place goes to Analyst No. 49, The Southwestern Laboratories of Dallas, Texas, with an efficiency of 99.866. It is interesting to note that last year the Southwestern Laboratories was awarded the cup for an efficiency of 99.956½ per cent, while this year the same laboratory was awarded second prize with an efficiency of 99.866 per cent. It is also interesting to note that Dr. W. F. Hand, who

was awarded second place last year with an efficiency of 99.926 per cent, has been awarded first place this year with an efficiency of 99.889 per cent. The efficiency of the work this year appears to be less than that of last year, a possible reason of which will be offered later. The winner of the cup this year, Dr. W. F. Hand, also won the cup in 1926-27.

The certificate for the highest efficiency in determination of the oil only is awarded to Dr. W. F. Hand, State Chemist, Mississippi A. & M. College, whose average is 99.866 per cent. The certificate for second place goes to Mr. D. B. McIsaac, International Vegetable Oil Company, Savannah, Ga., analyst No. 4, with an efficiency of 99.804 per cent. The percentage of the winner last year was 99.938 and for second place 99.918.

The certificate for the highest efficiency in the determination of ammonia is awarded to Analyst No. 14, Mr. Geo. K. Redding, The Larrowe Milling Company, Rossford, Ohio, with an average of 99.980 per cent and the certificate for second place goes to No. 49, The Southwestern Laboratories, Dallas, Texas. The foregoing comparisons show that the percentage efficiency for both oil and ammonia, as well as for the combined oil and ammonia work, is slightly less than for last year.

There have been comparatively few complaints from the collaborators regarding the samples this year. This in spite of the fact that some abnormal meal samples were sent out. These abnormal samples possibly explain the slightly less efficiency obtained by the collaborators this year than that obtained last year. The few complaints were registered against including the results of the sample which contained an unusually high oil content. The Committee felt that our official method should provide for high or low oil content samples. If it does not, then it is not a method. We, therefore, ruled that this and other samples

would be included in the final results. The Smalley Foundation Cooperative analytical program is not a contest but a means of checking our official methods in the hands of numerous operators as well as checking our individual work.

In concluding this report your Committee feels that the Society owes Mr. Thos. C. Law a tremendous debt for his care and attention in preparing and mailing the samples.

Personnel of Committee:—N. C. Hamner, L. C. Haskell, H. C. Moore, L. B. Forbes, E. A. Butt, G. K. Witmer, A. W. Putland, Chairman.

TABLE NO. I

Analyst No.	Points off	% Efficiency
19	28	99.866
4	41	99.804
93	45	99.784
49	50	99.761
31	52	99.751
80	53	99.746
86	54	99.741
58	62	99.703
7	63	99.697
37	69	99.668
84	77	99.631
43	80	99.617
9	81	99.611
40	83	99.602
13	84	99.596
26	96	99.539
70	97	99.534
15	101	99.516
6	103	99.506
53	108	99.472
69	113	99.458
92	113	99.458
2	119	99.429
79	124	99.409
35	127	99.39
77	132	99.365
83	132	99.365
3	136	99.347
71	139	99.332
60	141	99.321
56	149	99.284
58	149	99.284
81	150	99.279
10	155	99.256
75	159	99.221
5	162	99.221
74	186	99.106
59	193	99.072
66	196	99.058
20	202	99.029
45	214	98.971
62	311	98.51
83	340	98.36
72	672	96.77

TABLE NO. II

Analyst No.	Points off	% Efficiency
14	5	99.98
49	7	99.972
34	10	99.959
55	10	99.959
5	14	99.9424
89	15	99.938
53	16	99.9325
93	18	99.925
86	18	99.925
84	20	99.9168
61	20	99.9168
19	21	99.913
71	22	99.909
80	22	99.909
4	30	99.874
59	30	99.874
10	31	99.871
58	33	99.863
60	33	99.863
8	33	99.863
68	36	99.850
32	36	99.850
36	37	99.846

TABLE NO. II (Cont'd.)

Analyst No.	Points off	% Efficiency
33	38	99.842
7	39	99.837
2	40	99.833
43	41	99.829
24	42	99.825
26	43	99.821
39	43	99.821
9	44	99.817
74	45	99.813
66	47	99.805
31	47	99.805
70	48	99.8
38	49	99.795
40	51	99.788
81	53	99.780
91	54	99.775
35	56	99.768
54	57	99.766
76	58	99.756
15	61	99.744
3	63	99.738
75	67	99.721
18	67	99.721
27	67	99.721
69	68	99.719
6	68	99.719
56	72	99.700
92	74	99.692
65	78	99.674
37	81	99.796
83	84	99.65
72	86	99.641
30	89	99.630
22	93	99.612
13	94	99.608
16	106	99.558
88	106	99.558
73	116	99.517
77	125	99.482
62	128	99.457
25	129	99.462
21	130	99.46
45	131	99.455
79	151	99.37
20	153	99.362
17	163	99.333
1	166	99.309
64	348	98.548

TABLE NO. III

Analyst No.	% Efficiency
19	99.889
49	99.866
93	99.854
4	99.839
86	99.833
80	99.827
31	99.778
68	99.776
84	99.775
7	99.767
37	99.732
43	99.723
9	99.714
53	99.702
40	99.695
26	99.680
70	99.677
2	99.631
15	99.630
71	99.620
62	99.612
13	99.602
60	99.592
69	99.588
5	99.581
35	99.579
92	99.575
58	99.573
10	99.563
3	99.542
81	99.529
56	99.492
59	99.473
75	99.471
88	99.461
74	99.459
66	99.431
77	99.422
79	99.387
20	99.145
83	99.005
62	98.988
45	98.758
72	98.205