TABLE 1

Per Cent Oil Content (14% Moisture Basis). Collaborative Samples 1944-45.

Collaborator No.	Whole Soybeans				Ground Soybeans Sample No. 1945-1			Average
	Sample No. 11	Sample No. 12	Sample No. 13	Sample No. 1945-1	Regrind	No Regrind	No Regrind 5-gram	
3	17.98	17.43	19.27	17.34	17.30	17.21	17.22	17.68
11	17.96	17.20	19.40	17.52	17.48	17.39	17.23	17.74
34	18.05	17.36	19.29	17.30	17.47	17.34	17.29	17.73
43	18.22	17.49	19.52	17.21	17.39	17.27	17.20	17.76
50	18.32	17.46	19.53	17.12	17.26	17.20	17.18	17.72
51	18.07	17.49	19.33	17.24	17.44	17.35	17.18	17.73
63	.....	.....	.....	17.30	17.34	17.21	17.17	
73	17.80	17.39	19.36	17.53	17.60	17.32	17.17	17.74
81	18.35	17.60	19.40	17.32	17.30	17.18	17.20	17.76
Average	18.09	17.43	19.39	17.32	17.40	17.27	17.20	.....
Maximum	18.35	17.60	19.53	17.53	17.60	17.39	17.29	.....
Minimum	17.80	17.20	19.27	17.12	17.26	17.18	17.17	.....
Standard deviation	.18	.11	.09	.13	.10	.07	.04	.....

ciently fine. One improved type of hammer mill has been tested by the chairman, and unfortunately in its present form this mill clogs too quickly to be used successfully for the routine grinding of dried soybeans. Further work on this type of mill should be carried out.

If the average results on the four portions of Sample 1945-1, analyzed by each collaborator, are compared, it will be noted that when 5 grams were extracted without regrinding, 17.20% oil was found as compared with 17.40% with regrinding. These two values are the extremes of the averages on this sample. It seems quite possible that the difference of 0.20% between these values may represent material which is not truly oil and which is removed by petroleum ether because of the exposure to moist air during the regrinding. This explanation should be studied.

This year's work has shown therefore that:

1. The present official A.O.C.S. methods for oil in soybeans, in the hands of experienced analysts, has a standard deviation of from 0.1 to 0.2.

2. Improvements in reproducibility may be obtained by eliminating the regrinding and increasing the size of the sample.

At the present time no change in the present official methods can be justified. It is recommended that future work to improve the methods be carried out as follows:

1. Study the use of a grinding mill which will eliminate regrinding and which need not be adjusted by the operator.

2. Study the composition and nature of the additional material which is extracted by petroleum ether after regrinding a sample which initially was very finely ground.

E. C. AINSLIE
F. I. COLLINS
C. H. COX
EGBERT FREYER
V. C. MEHLENBACHER
T. J. POTTS
S. O. SORENSEN
R. T. MILNER, *Chairman.*

Report of the Cellulose Yield Committee 1944-1945

DURING the past year linter samples were sent out four times to ten laboratories. Two of the laboratories received only three sets of samples. The following table gives the averages of all the samples sent out:

Lab. No.	No. Sets Samples Tested	Samples			Overall Average for Year
		A Linters	B Linters	C Fiber	
1	4	78.6	72.5	70.8	74.0
2	4	78.5	72.6	70.9	74.0
3	4	78.6	72.7	71.0	74.1
4	4	78.5	72.4	71.5	74.1
5	4	78.9	71.8	71.0	73.9
6	4	79.1	72.5	71.3	74.3
7	4	78.6	72.7	70.8	74.0
9	4	79.0	73.6	72.3	75.0
10*	3	78.8	73.2	70.3	
11	4	79.1	72.6	71.3	74.3
12	4	78.9	72.4	71.2	74.2
13*	3	78.5	73.8	70.6	.....
Avg	....	78.8	72.6	71.2	74.2

*Three sets run, not included in average.

Laboratory No. 8, which is missing from the group, did not participate in the check samples during the past year.

It is noted that with the exception of laboratory No. 9 the averages of all three sets are very close.

We still believe that it is worthwhile to send these samples out three or four times a year in order to be sure that all laboratories are keeping their equipment in proper shape.

Recommendations:

It is recommended that a sample be sent out at least four times during the next year to all laboratories who are equipped to run the tests and who desire to get in on the check analysis.

E. C. AINSLIE
M. C. BOULWARE
C. H. COX
W. S. HUDE
E. H. TENENT
L. N. ROGERS, *Chairman.*