FURTHER PROCEEDINGS OF THE SIXTEENTH ANNUAL CONVENTION

Lack of space prevented completing the record of the proceedings of the Sixteenth Annual Convention in the last (October, 1925) issue of the *Journal*. Two remaining committee reports are of such importance as to make their publication highly desirable, in spite of the late date. These are reports by the Moisture Committee and the Seed Committee. Also resolutions were passed that must at least be made a matter of record—THE EDITOR.

THE REPORT OF THE MOISTURE COMMITTEE

BY P. S. TILSON

The work of this Committee began where Drs. G. L. Bidwell and W. F. Sterling, Bureau of Chemistry, Washington, D. C., left off in respect to Cottonseed Meal and this report includes much of the article on "Direct Moisture Determination" as given by Bidwell and Sterling in "Industrial and Engineering Chemistry," Volume 17, No. 2.

Briefly, this method for determining moisture is to distill the sample with a liquid, toluene, which is immiscible with water. The apparatus used and the method of procedure is essentially that described in the Bidwell and Sterling article.

Disadvantages

The tubes require thorough cleansing before each determination, and the condenser should be cleaned once for every two or three determinations. Otherwise it is necessary to brush down the condenser so that the water will flow to the bottom of the tube as it should.

Water of crystallization is separated from some substances, as copper sulfate, sodium sulfate, etc.

Several substances, such as alcohol, glycerol, acetone, etc., which are volatile and miscible with water, may distill over and cause high results by this method.

Advantages

The method determines water directly, and the results are actual water and not loss in weight.

As the substances mentioned above, which are volatile and miscible with water, are more or less soluble in toluene, the results by this new method are more accurate than results given by an oven method.

The results are obtained in most cases within an hour, and in all cases in much less time than a working day.

No complicated, expensive apparatus is required. The tubes can be made by any glassblower and should be comparatively inexpensive if manufactured in quantity. The other parts of the apparatus are found in every laboratory. The tubes will cost about $1.25 each.

The effect of humidity during the determination is eliminated.

The method prevents oxidation of the sample while the moisture is being determined.

No special training in technic is required for manipulation as several analysts unacquainted with the method were able, after simple explanations, to obtain entirely satisfactory results at the start.

Discussion

The moisure apparatus used did not exactly meet the required specifications being the first apparatus made by the manufacturer.

Your Committee knows of no other analytical process in which we are concerned that needs greater special attention as shown by our moisture results on check meal work, and it also shows conclusively that many of our laboratories are not equipped with a constant and uniform moisture oven.

In using this moisture apparatus the Committee confined its attention to Cottonseed Meal. Since the results were few, and the apparatus used requires a slight modification, your Committee does not feel justified at this time in giving its results in detail. However, they are available to any one interested.

The results obtained show that two analysts can check much more closely with the Bidwell Sterling apparatus than they can by use of the present laboratory ovens.

The greatest value of the Bidwell-Sterling method is that it arrives at the true moisture content, thus enabling the analyst to see how close his oven method is to being correct. If our study in connection with the Bidwell-Sterling method enables us to ascertain whether or not our laboratories are equipped with a uniform and constant moisture oven, we have accomplished much.

The Committee sees great merit in the Bidwell-Sterling moisture apparatus and recommends that all participants in check meal work be required to report moisture once a month by both methods, and that the Bidwell-Sterling moisture method be further studied by a Moisture Committee, particularly in reference to moisture content of all substances of direct interest to the American Oil Chemists' Society.

Committee: P. S. TILSON, Chairman; E. C. AINSLIE.

A CORRECTION

"Mr. H. C. Moore, Chairman of the Ammonia Committee, American Oil Chemists' Society, wishes to announce that in his report published in the October issue of this journal the results of analyst No. 48 were omitted. This result should appear in table No. 2, page 121, and is tied for third place with analyst No. 74."