

Report of Moisture Committee

By N. C. HAMNER, *Chairman*

WITH the advent of seed grading, the accurate determination of moisture becomes most important, due to the fact that the quantitative index is in part dependent upon two moisture determinations, one on original sample, and one on a partially dried and treated sample. With this idea in mind, the Chairman sent out to seven laboratories a sample of cottonseed which had been carefully mixed, and took the liberty of making in addition to the membership of the Moisture Committee, Messrs. Ainslie, of the Buckeye Cotton Oil Company, and Cox of Barrow-Agee Laboratories, to cooperate. With this sample went a rather long series of tests to be made with the A. O. C. S. oven, the Freas Force-draft, and the DeKhotinsky. Five laboratories cooperated but with the exception of Mr. Cox's, were not all equipped with all ovens. There was a total of some 6200 moisture determinations made. The results obtained may be summarized as follows:

The A. O. C. S. oven will give uniform results, but under full load will not get the total moisture with this class of seed in five hours at 101°. In fact, none of the ovens will. On seed containing 8% moisture the A. O. C. S. oven in .3 low (as compared with a total moisture obtained with the official oven loaded with only twelve 5-gram samples). The Freas Force-draft gave results .1 lower in five hours at 101° than when loaded with only 10 boxes. Taking the ovens individually, the A. O. C. S. gives uniform results in any part of the oven, and it returns to 101° after introducing full load varies from fifty minutes to three hours, dependent upon heating arrangement. The DeKhotinsky in five hours under full load shows a variation of approximately .4% in the moisture results obtained, being lower on the upper shelves than on the bottom shelves and also showing a variation between the left side of the oven and the right side as we stand in front and open it. The boxes on the left side show a .2% greater moisture than those on the right, the rows between these following in between. The time of regaining temperature on DeKhotinsky was from one hour and fifteen minutes to one hour and forty-five minutes—with the auxiliary adjustments made.

The Freas Force-draft gives uniform results from left to right and from bottom to top, and in one case time of recovery of temperature is reported as "nil" and in another—45 minutes, under full load. In a test plotting temperature of ovens under full load with adjustment

of heating medium, the A. O. C. S. holds its temperature exactly after recovery. The DeKhotinsky varied approximately 2°, and the Freas as plotted by Mr. Cox—1½°. These temperatures on the various ovens are considered after return to 101°. In the A. O. C. S. oven, loaded one-half with treated seed and one-half with untreated seed, lower results were obtained when placing the treated seed on the upper shelves than when placed below. For temperature control and uniformity of results throughout the boxes, the A. O. C. S. oven is excellent; next comes the Freas Force-draft; and third, the DeKhotinsky. In temperature recovery the Freas first; DeKhotinsky second; A. O. C. S. third—this of course supposing that auxiliary adjustments are used to bring the temperature back.

It is recommended that the time of drying of untreated seed be increased to ten hours, and that the oven used be an A. O. C. S. or a Freas Force-draft, both being adjusted to a temperature of 101°—that the DeKhotinsky Oven now in the laboratories may be used for drying seed preparatory to treatment. For determination of moisture on meal and other work that may be in the laboratory where the oven used is likely to be opened during drying time of samples already in the oven, the Freas Force-draft is recommended because of its quicker recovery.

The Chairman desires to express his thanks to members of the Committee and to Messrs. Ainslie and Cox for their cooperation.

A slight increase in demand for American lard in Germany during the early part of July disappeared suddenly in the financial crisis, from which the business suffered throughout the remainder of the month. Dealers hesitated to lay in stocks of any kind and sellers did not urge them. Cash payments were demanded in most instances, credit being extended with reluctance. Prices for pure lard ranged between \$19.75 and \$21.50 per 100 kilos. Competing Danish lard sold at about \$18.65 for box goods, per 100 kilos. Its importation, however, was greatly reduced by the difficulties arising from the financial crisis. Receipts of lard in Hamburg in July totaled 3,725,000 pounds, as compared to 7,452,000 pounds in June and to 9,436,980 pounds in July, 1930.

It is reported that Brazilian interests have imported 120 metric tons of soybeans from Dairen, Manchuria, for use as seed in initiating the culture of the beans in Brazil.