There is considerable variation in the extinction coefficients at the other maxima, which has also been found to be true in the case of duplicate samples of freshly recrystallized pure gossypol; therefore the extinction coefficients at these maxima should not be used as criteria of purity of gossypol.

The melting points of some of the stored samples (Table I) were slightly lower than that of the original sample prior to storage, but these differences are not believed to be significant because pure gossypol undergoes decomposition in the region of its melting point and sharp melting points are extremely difficult to obtain.

The foregoing results indicate that pure gossypol may be stored over a temperature range of 3 to 28° C. without appreciable deterioration for at least 18 months if it is protected from light. These observations apply only for pure gossypol because the presence of impurities tends to accelerate the rate of decomposition during storage.

Summary

Pure gossypol was stored for 18 months at temperatures of 3° and 23-28°C. in the presence or absence of light and air. On the basis of combustion data, absorption spectra, antimony trichloride tests, and melting points of the original and stored samples it can be concluded that gossypol can be stored without deterioration for at least 18 months at temperatures from 3° to 23-28°C. in the absence of light, irrespective of the presence or absence of air.

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Report of the Refining Committee, 1950-51

DURING the past year the work of the Refining Committee has been carried out by two small subcommittees which were appointed by the chairman shortly after the Atlanta meeting.

The first, under the chairmanship of T. C. Smith, undertook the study of existing cup refining methods for crude soybean oil with particular reference to the following points:

a) The general technique involved, particularly with reference to the presence of free lye in degummed oils of both the solvent extracted and expeller type.

b) The number of remelts required to make sure that as complete a recovery of oil as possible be made from the soapstock.

c) The amount and strength of lye to be employed.

Mr. Smith's committee did collaborative work on 12 samples of degummed oil, six solvent extracted and six expeller. A report was presented at the meeting held on April 30, and a number of suggestions for strengthening the method were put forward.

Particularly notable among these was the observation that close temperature control of the refining bath is essential and that the oil be chilled in a refrigerator for at least 12 hours at 10°C. ±2°. They also recommended the use of at least this temperature for chilling the foots after remelting. The method of coagulating sloppy or soft foots remaining after the pour-off recommended by Mr. Henry was also found very useful. No recommendation for changes in lye strength and percentage was made.

The Refining Committee voted to accept the report of the subcommittee but, before making any recommendations to the Uniform Methods Committee, the committee as a whole will study the procedure recommended by the subcommittee, and accumulate further data. It is planned to review these data at the fall meeting with the hope that recommendations can be made at that time to the Uniform Methods Committee.

The second subcommittee, under the chairmanship of Mr. Holman, investigated a method for the refining of solvent extracted cottonseed oil. This committee was somewhat hampered by difficulty in obtaining samples. However two oils were investigated, one a straight solvent extracted crude and the other a mixture of 75% prepressed and 25% extracted oil. Mr. Holman's laboratory investigated the regular and slow breaking methods on the first oil, and the regular and expeller methods on the second. Indications were that the best losses and good colors were obtained by the regular method.

The two samples were then refined collaboratively by the committee members with the regular method, with good results. Mr. Holman presented a progress report at the meeting on April 30, and the committee requested his committee to continue their work during the coming season and to make every effort to obtain a larger number of samples.

E. M. JAMES, chairman