(CHEMISTS' SECTION)

where blue was used with those of another chemist where blue was not used, and thus introduce further difficulties.

If Dr. Wesson's instrument, the Eastman colorimeter, were adopted, the use of neutral tint would take the place of the blue.

Further work may show the advantage of using blue above 10 red, and that question could be investigated by the new committee.

H. P. TREVITHICK,
Chairman Soya Bean Refining Committee.

COTTONSEED OIL REFINING COMMITTEE REPORT.

By G. Worthen Agee, Barrow-Agee Laboratories,
Memphis, Tenn.

The following questionnaire was sent out to the members of the committee in order that information might be obtained as to refining practice in the laboratories of the committee:

Chairman H. J. Morrison of the Refining Test Committee is requesting a report from our subcommittee on the refining of cottonseed oil.

Will you please, while the matter is before you, write me fully covering the following points?

No. 1. What type of refining machine or agitator is used in your laboratory?

No. 2. Is the machine satisfactory, and can you suggest improvements or changes?

No. 3. Particularly describe the paddle used by you, giving a sketch of same.

No. 4. Describe in detail your practice in handling the refining of good oils.

A. Temperatures at time of adding caustic solution.

B. Time stirred before raising temperature.

C. Speed of agitation, and is this varied during refining?

D. Finishing temperature.

E. How long is oil settled before weighing up?

F. Cover any points that occur to you not mentioned above.

No. 5. Describe as above for "off" oils.

No. 6. Give details as to your practice in recovering oil held in the soap stock of badly off oil.

No. 7. Mr. Morrison states that he thinks standard practice is essential for concordant and check results. Please advise your opinion and give your views as to how refining practice can be standardized in all its details.

Replies were received from all members, but the equipment and details of methods are so varied that no definite conclusions can be drawn.

Equipment.

Four members of the committee use agitating machines with variable speed control. The other three use constant speed agitators. There is also variation in the type of paddles used, several using straight-bladed, T-shaped paddles, one a three-bladed form, the blades being set at a 45-degree angle, and others simple propeller-shaped paddles.

Methods.

While in a general way the official methods are followed, there are such great differences as to details of temperature that no idea can be conveyed in a consolidated report as to just what practice is most used or best. In some of the laboratories "off" and "prime" oils are handled practically alike, and in others the

practice varies with the personal preferences of the worker as based on his individual experience.

Speed of agitation is another factor that is by no means a fixed and definite one, and no doubt differences in rate of stirring and in the temperatures at which caustic is added and refining stopped have an important bearing on the results obtained.

Conclusions.

In so far as it seems possible to draw conclusions from these separate reports, it would seem that the consensus of opinion is about as follows:

It should be possible to control and vary the speed of the agitation within certain limits. Any type of machine that permits of this would be satisfactory.

A paddle of a definite shape might tend toward more uniform results. It is the opinion of the chairman that a specification of speed without a specification as to the shape of the paddle means absolutely nothing. The amount of agitation is as much dependent on the shape of the paddle as on the rate at which it is turned. There should also probably be a relationship between the size of the refining vessel, the size of the paddle and the volume of oil.

Though some of the committee would like definite and fixed methods of handling oils, others believe—and in this the chairman concurs—that it is impossible to eliminate the personal equation in crude cottonseed oil refining. It would be impossible to reduce the refining process to the same basis of a fixed and unvarying procedure as, for example, the Kjeldahl-Gunning ammonia method. Oils made from seed of various qualities and by manufacturing processes that vary as to the temperature to which the oil was raised in cooking the meats are necessarily individual in character. The treatment that gets best results in one case does not in another. Rate of agitation, temperature for finishing, strength of lye and time of refining must be left to the skill and experience of the operator.

Reports of the members of the committee are submitted herewith.

G. WORTHEN AGEE,
Chairman Cottonseed Oil Refining Committee.

OIL SAMPLING COMMITTEE REPORT.

By R. W. Perry, Gunns, Limited, Toronto, Canada.

The committee wishes to recommend that the Society recommend to the Interstate the following change in the rule covering sampling of oil in tank cars, Rule 39, Section 6, to read as follows:

"Oil, if in tank cars, must be taken vertically through the oil with an official trier, as described under the methods by the American Oil Chemists' Society rules. The trier to be furnished by the buyer and to be kept open as it passes through the oil, and to be closed only when the bottom of the tank car is reached, and from this a three-gallon sample shall be taken and placed in three one-gallon cans and sealed carefully, without the use of sealing wax. An outage of two (2") inches shall be left in cans to permit of proper shaking of the sample. If, however, a preliminary sample shows the presence of settlings in the oil, the buyer shall have the right to unload the contents of the tank car in the presence of an official weigher and sampler into a clean refining tank, and after the agitators shall have perfectly mixed the contents and while it is still operating, a three-gallon sample shall be drawn and placed in three one-gallon cans and sealed carefully without the use of sealing wax. The certifi-