and if the loss was less than 9.0%, he could not be blamed for leaving enough meal and debris in the oil to increase the loss to that minimum of 9.0%.

New Rule Offers Profit Opportunity

Under the new rule this situation has been entirely changed and the miller receives a substantial premium for every improvement in color and reduction in refining loss which he can effect. By the application of modern methods, cottonseed oil millers can command thousands of dollars in premiums from purchasers of better than prime oil.

If, as is inevitably the case, some of the oil produced is "off" oil, the application of the same modern methods of manufacture will reduce the degree by which the oil is off, thereby saving the miller appreciable sums in consequent reduction of the discounts which he must allow for this off oil.

OIL AND FAT INDUSTRIES calls particular attention to the articles immediately following, by Mr. Horine and Mr. Harrocks, as containing suggestions of vital interest to every cottonseed oil miller at the present time.

The Filtration of Crude Cottonseed Oils

Application of Simple Process Shows Definite Profit for Millers.

By F. L. HORINE

THE new agreement in regard to the terms of payment the buyer or refiner must meet in settling for cottonseed oil has at last placed a premium upon the production of a cleaner and higher quality oil, one that will refine with less loss and to a lower red color. At once it is of interest to the producer to know how to obtain this better and more valuable oil. The clearly indicated method is by filtration, a process already proven. The equipment called for is inexpensive and simple and the materials needed are upon the market. The actual costs involved are appended to this article.

The filter used is the ordinary plate and frame variety. Were the crude and very briefly settled oil to be filtered without the admixture of a filter aid, the rate of flow from the filter would be poor and the removal of impurities incomplete. These unsatisfactory results would be due to the fact that the holes in the filter cloth are relatively large and, despite that fact, soon clogged with slimy matter. To maintain a high rate of flow, to give the filter a long operating cycle, and to produce a properly cleared oil requires the admixture into the oil to be filtered of a small percentage of filter aid, an especially prepared porous diatomaceous silica. The greater part of the oil can later be blown or steamed from the filter cake and the cake returned to the presses. The proportion of filter aid used to meal produced is insignificant. This paragraph does not attempt to give exact operating details but merely to outline the procedure.

The filtration process just described insures the complete removal of all suspended matter such as granular and colloidal meal, resins and gums, and moisture. The initial advantages of obtaining such

an oil are apparent. An oil which will not deteriorate in 4-6 months results. The usual weekly "clean-up," which may amount to 2% of the output, is eliminated. This clean-up always entails losses, selling meal as foots or recovering deteriorated oil. But the main advantages of filtration are found in the reduction of refining loss and improvement of color in the refined oil. Observed work has shown that a properly filtered oil shows a decrease in refining loss of at least 2% and in red color of 1.0 R. This figure is one somewhat below average.

Recapitulation of Profits

A summary of the costs and savings due to filtration, under two different conditions, are tabulated below.

Case 1. Crude at 8c. 4 Press Mill. 24,000 lbs. Oil Daily. Refining loss improved 2%, means 1% increase in price on prime oil. Color improved 1.0 Red means ½% increase in price on prime oil. Daily increase in value of oil = (24,000 x 0.08) x 0.015 = $28.80.

Cost of filtration can be summed up as follows:

1. Daily investment charge at 8% for 200 days = $\frac{\$2{,}000 \times 0.08}{200} = \$0.80$
2. Daily depreciation charge, of 10% for 200 days = $\frac{\$2{,}000 \times 0.10}{200} = \$1.00$
3. Daily power charge . . = $0.18
4. Daily maintenance and supplies, cloth, paper. . . . = 1.03
5. Direct Labor—6 hours at 50c . . . . . = 3.00
6. Filter Aid—60 lbs. at 4.3c . . . . . = 2.58

Total filtration cost $8.59

Net Daily Profit = $28.80 — $8.59 = $20.21

Case 2. Crude at 8c. 4 Press Mill 24,000 lbs. Off Oil Daily. An Off Oil improvement of 2% in loss on refining means 2% increase in price. Color improved 1.0 Red means ½% increase in price. Daily increase in value of oil = (24.000 × 0.08) × 0.025 = $48.00 The cost of filtration is as under Case 1.

So net daily profit = $48.00 — $8.59 = $39.41.

Chevreul Prize Contest Extended

All Papers Published in OIL & FAT INDUSTRIES Prior to April, 1928, Eligible for Prizes

The Chevreul Prizes were offered by the American Oil Chemists' Society and Oil and Fat Industries for the three best original articles published in Oil & Fat Industries during the season 1926-1927.

At the Memphis meeting of the governing committee of the American Oil Chemists' Society, it was the consensus of the members that the prize awards should be extended to include for consideration all articles published up to and including the April, 1928, issue of OIL AND FAT INDUSTRIES, and the Award Committee has so ordered.

The entry of contributions of members of the American Oil Chemists' Society and of all others is earnestly desired and solicited for consideration for the Chevreul Prizes.