

SUGGESTED METHOD FOR COLOR READING OF NORMAL, BLEACHED AND OFF-COLOR COTTON- SEED OIL AND OTHER VEGETABLE OILS

GENERAL. For reading and comparing the colors of vegetable oils, use is made of the well known Lovibond yellow and red color glasses. Although this method of color reading is far from perfect and the standard glasses not all that might be desired, nevertheless this method appears to be the most practical of any suggested up to the present time and also has the sanction of general and long-continued use.

APPARATUS. For making the color reading, the standard tintometer shown in the sketch attached hereto is used, all oils being read at a temperature of 21.0°C. This apparatus consists of several parts—a light tight box, a standard blue glass incandescent bulb of 150 watts, which should be changed frequently enough to maintain a fairly constant illumination, a block of magnesia directly under the optical element which receives the light from the bulb and affords a white background against which to read the color, means for supporting the column of oil to be read and the color glasses, optical part consisting of prisms and lenses which produce a split field and thus make the color comparison easier.

READING THE COLOR. There are three general types of cottonseed oil on which color readings are regularly made (1) Bleached oils of very light color, (2) Prime oils which as defined by the rules of the Interstate Cottonseed Crushers Association have a color not greater than that produced by the combined Lovibond glasses 35 Yellow and 7.6 Red, and (3) Off-color oils which may have a color as high as 150 Yellow and 25 Red, or even much more than this. The oil whose color is to be read is placed in an oil bottle or in a suitable tube not less than $\frac{3}{4}$ " in diameter, and is read in a column of $5\frac{1}{4}$ " depth. A corresponding bottle or tube of clear, colorless alcohol or water is placed in a duplicate bottle or tube in the holder in parallel with the oil column. The yellow and red glasses are then placed in the space above the clear bottle or tube provided for this purpose, and suitable color glasses are added or substituted until the best possible color match for the oil is obtained, with due regard both for the quality of color and the depth of shade or intensity of color.

In the case of Bleached Oils, the Lovibond glasses afford excellent results, and in the case of Prime Oils also the results are reasonably good. But Off-color Oils afford considerable difficulty. This is because of the fact that to match a precise quality of color, a blue or grey shade is needed in addition to the yellow and red. However, the best match possible is reported making use of the standard yellow and red glasses. Soya Bean

Oil offers great difficulty in obtaining a correct match, as do also some samples of cocoanut oil.

REPORTING RESULTS. All results are to be reported in terms of the yellow and red Lovibond glasses, thus: For a Bleached Cottonseed Oil, 10 Yellow, 1.5 Red; for a Prime Cottonseed Oil, 35 Yellow, 7.1 Red; for an Off-color Oil, 135 Yellow, 15 Red.

W. D. RICHARDSON, Chairman,
Committee on Analysis of Commercial Fats and Oils.