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"CONSTANTS OF CHICKEN AND TURKEY FATS."

BY RAYMOND ROSS, F.I.C., AND JOSEPH RACE, F.I.C.

(Read at the Meeting, April 5, 1911.)

In the following table a number of constants for chicken fat and turkey fat are given :

	Fat.		Fatty Acids.	
	Chicken.	Turkey.	Chicken.	Turkey.
Sp. gr., 100° F.	0.9065	0.9090	0.8866	0.8990
Koettstorfer	204.6	191.6	208.3	195.0
Molecular weight	—	—	270.0	287.0
Iodine value (Wijs)	71.5	66.4	73.6	70.7
Reichert Meissl	1.8	3.8	—	—
Polenske number	2.1	1.6	—	—
Acetyl value	—	—	25.4	18.4
(Ricinoleic acid, per cent.)	—	—	13.7	9.9
Hegner value	94.6	95.1	—	—
Melting-point, ° C.	23 to 27	31 to 32	27 to 30	37 to 38
Zeiss at 50° C.	47.5	46.0	36.5	32.5
Refractive Index, 50° C. :				
	Nd 1.45760		1.44854	
	Nc 1.45503		1.44592	
	Nf 1.46359		1.45433	
	Ng 1.46862		1.45952	

The fats were optically inactive.

An examination of the fat from fowls which had died of overfeeding invariably showed a higher Zeiss number and iodine value than the normal values given above. This result is generally brought about by the use of too much heating food.

The formulæ used for calculating ricinoleic acid and triricinolein were respectively as under :

$$\text{Ricinoleic acid in fatty acids} = \frac{100 A}{A (165 - A) \frac{340}{298}}$$

$$\text{Triricinolein in oil} = \frac{100 A}{A (159.1 - A) \frac{1053}{932}}$$

A = Acetyl value.

