monocarboxylic acid (nonoic) by "ester" interchange on a *basic* alumina column has not been reported, nor has Kartha put forward any experimental evidence in support of this. If his reasoning is correct, how could he explain the presence of 5–8.8% of neutral products obtained by the chromatographic adsorption of oxidized GS_2U (containing 2.8% GS_3) and GSU_2 (0.0% GS_3) concentrates, particularly when these were adsorbed *only after removal of low molecular weight acids* (nonoic etc.) by his magnesium salt separation (Tables II and IV, experiments 7,8,9, ref. 1). Also, how could the presence of 9.0% (2.8% GS_3) of neutral products obtained from GS_2U concentrate by a mere carbonate washing procedure (Table III, experiment 6, ref. 1) be explained, even after it was very conclusively demonstrated that GS_2A are not hydrolyzed during this washing procedure. Contrary to Kartha's allegation (4), the chromatographic procedure employed by us was *standardized*, using known mixtures of pure GS_3, GS_2A, stearic acid, oxidized *G. Indica* fat, and GS_2U containing nonoic acid (1,10,11).

As reported earlier (1), the yield of IAG alone is no proof for the absence of hydrolysis of GS_2U and GSU_2 as other data on the IAG (S.V., A.V., percentage S) have also to be taken into consideration. Hydrolysis in a procedure cannot be detected by analyzing fats by the same procedure, which is considered to be in error. Conclusive proof can only be obtained by employing concentrates whose composition is definitely known (1). And if this is not sufficient, then it is suggested that mixtures of 2-oleodistearin and 1-stearodiolein in the proportions of about 70:30 and 30:70 and also pure 1-stearodiolein be analyzed. The analysis of these has been carried out in this laboratory (unpublished work) using the conditions specified by Kartha.

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Lanolin nee Woolgrease

We wish to draw attention to several inaccuracies in the above report by S. T. Goode, which was featured in the February issue of JAOCS.

The work of Weitkamp has been greatly extended by several different workers in the last fifteen years, and the present position is summed up in Table I, taken from Downing (1).

The groups of acids identified by Weitkamp have been extended to include ω-hydroxy acids, and additional compounds in each of the groups have been identified.

Contrary to Goode's statement, the alcohol fraction is almost as fully identified as the acid fraction.

The figures in Table I are for freshly secreted wool wax. The grease on the wool normally contains a high proportion of oxidized material, very little of which has been identified chemically, and which is the source of color and free acidity (2). The oxidized material is recovered in the acid cracking process but not in the centrifugal process, which largely explains the differences between the two products. More oxidized material is recovered centrifugally from neutral nonionic scour liquors than from alkaline soap liquors, and the spread of neutral scouring over the last few years has resulted in a reduction in the quality of crude wool grease, with a consequent increase in refiners' problems.

TABLE I

Composition of Acid and Unsaponifiable Fractions of Wool Wax

Composition	Weight %
A. Acid Fraction	
Alkanoic acids	60
α-Hydroxy acids	5
ω-Hydroxy acids	30
Undetermined	5
B. Unsaponifiable Fraction	
Hydrocarbons	0.3
Monoalcohols	9.5
α, β-Diols	6.5
Cholesterol	31
Lanosterol	44
Undetermined	8.7

The statement that the solvent and soap/soda scouring processes have become obsolete because of the advance of science gives a false picture of the situation. In Bradford, England, which is the largest wool scouring center in the world, soap/soda scouring is still used exclusively. The "advance of science" has led to the introduction of at least two new solvent scouring processes in the last 10 years (3,4).

Felting is not "splitting of the woolen fibers."

The use of a suint bowl (i.e. an initial wash in relatively cool water) is by no means as universal in wool scouring as Goode implies.

When nonionic detergents are used for scouring, the main bowls are operated at about 65C. The 49C given by Goode is the temperature used for soap/soda scouring.

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