

## Follow your nose

Organolepsis sometimes has its moments of triumph over the more quantitative methods for determining rancidity such as, for instance, the peroxide determination. Ordinarily, the AOM (active oxygen method) which is dependent on peroxide measurement provides a good quantitative picture of the oxidative stability of a fat or oil. In the AOM test, the end point is actually the end of the induction period\* as evidenced by a sudden, sharp increase in peroxide content. With an animal fat this end point usually occurs at about 20 meq. of peroxide and with a vegetable oil, about 70 meq.

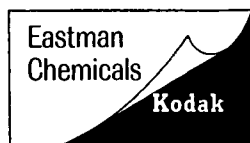
But beware!!—These peroxides are relatively unstable, volatile, and probably odorless intermediates formed during the oxidation of a fat or oil and leading to the formation of the true end products (not peroxides) responsible for rancidity. In evaluating some inedible animal fats, such as tallows and greases, or some of the highly unsaturated vegetable oils, peroxide values might remain unusually low over long periods of testing, suggesting high AOM stability. However, to the trained olfactory organ, these samples have obviously been subjects of extensive oxidative degradation. In other words, they stink, and "this", as the owner of a nationally-known proboscis would say, is a "dilemma".

Not at all!!—Our observation is that under certain circumstances and in the advanced stages of oxidation the rate of peroxide decomposition in these types of fats and oils can equal or might even exceed their rate of formation. Under these conditions, the peroxide content of the fat or oil might be quite low, thus nullifying the AOM results; but there is no mistaking that rancid odor.

When next you have occasion to make AOM determinations, you may remember the instance where the qualitative procedure wins...by a nose.

You may also remember that the expert advice of Eastman's Food Laboratory personnel is available to all users of Tenox antioxidants. Highly trained, with a broad knowledge of antioxidants, these technologists are well equipped to help solve your oxidation and rancidity problems.

*\*The induction period can be defined as the period of time elapsing in the life of a fat or oil when oxidation proceeds slowly and before rancidity becomes organoleptically detectable.*



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## Applications Accepted for Gordon Research Conferences

### Lipid Metabolism Program June 14-18

The Gordon Research Conferences for 1968 will be held in New Hampshire from June 10 to Aug. 30, 1968, and in Washington from June 24 to Aug. 23, 1968.

Applications must be submitted in duplicate on the standard application form which may be obtained by writing to the office of the Director, W. George Parks, Gordon Research Conferences, University of Rhode Island, Kingston, Rhode Island 02881. After June 10, inquiries should be directed to Colby Junior College, New London, N. H. 03257.

The complete program for the 1968 Conferences was published in "Science," March 8, 1968. Reprints are available on request.

The portion of the program devoted to lipid metabolism is under the direction of DeWitt Goodman (1962), Chairman, and P. R. Vagelos, Vice Chairman, and it is scheduled as follows:

**10 June.** D. Chapman, "Physical studies of lipid-lipid and lipid-protein interactions"; D. M. Small, "The interaction of biologically active lipids in aqueous systems"; E. D. Korn, "Membrane lipids in relation to fatty acid transport and phagocytosis"; A. J. Marcus, "Studies on the lipids of subcellular platelet particles."

**11 June.** L. I. Rothfield, "Biosynthesis and assembly of bacterial membrane components"; S. Fleischer, "The role of lipid in the function and molecular architecture of membranes"; DeWitt Goodman, "Retinol transport in human plasma"; H. Danielsson, "Mechanisms of the conversion of cholesterol to bile acids." (E. H. Mosbach, J. Wilson, discussants).

**12 June.** D. B. Zilversmit, "Formation and release of intestinal chylomicrons"; H. A. Eder, "The plasma apoprotein of the very low density lipoproteins: characterization and biologic role"; R. S. Lees, "Studies on human B-protein (apoprotein of  $\beta$ -lipoprotein)"; J. B. Marsh, "Biosynthesis of the apoprotein of low and high density plasma lipoprotein by rat liver ribosomes." (M. Fried, H. Windmueller, discussants).

**13 June.** M. Vaughan, "Hormonal regulation of lipolysis"; R. W. Butcher, "The role of cyclic AMP in the actions of lipolytic and anti-lipolytic hormones"; D. Steinberg, "Alpha-oxidation of branched-chain fatty acids in relation to Refsum's Disease."

**14 June.** J. Glomset, "Recent studies on the lecithin: cholesterol acyltransferase reaction"; R. J. Havel, "Hepatic metabolism of free fatty acids and production rate of triglyceride fatty acids in normo- and hypertriglyceridemic dogs and humans."

## Jobs Go Wanting in Food Industry

According to Prof. L. G. Harmon, of Michigan State University's Department of Food Science, scores of high paying jobs in the world's largest industry are being left unfilled.

The world's largest industry is food. The jobs are those requiring education and training in food science—food processing, quality control, research and development, food engineering, food chemistry and food microbiology.

The shortage of personnel is reflected in the number of scholarships available to MSU food science students. Various food industry organizations have provided over 30 scholarships of \$354 to \$1,000 per year for undergraduate students. And many of the scholarships receive no applicants, simply because there aren't enough students majoring in food science.