23. Lundberg, W. O., "Autoxidation and Antioxidants," Vol. I, Interscience Publishers, Inc., New York, 1961. 24. Lundberg, W. O., Ibid. Vol. II, Interscience Publishers, Inc., New York, 1962.

25. Mair, R. D., and A. J. Graupner, Anal. Chem. 39, 194 (1964).
26. Mehlenbacher, V. C., "The Analysis of Fats and Oils," The arrard Press, Champaign, Ill., 1960, pp. 188-235.
27. Mizuno, G. R., and J. R. Chipault, JAOCS 42, 839 (1965). Garrard

28. Moser, H. A., H. J. Dutton, C. D. Evans and J. C. Cowan, Food Tech., March, 1950, p. 105.
29. Nagy, J. J., F. C. Vibrans and H. R. Kraybill, Oil and Soap, December, 1944, p. 349.

30. Pohle, W. D., R. L. Gregory, T. J. Weiss, B. Van Giessen, J. R. Taylor and J. J. Ahern, JAOCS 41, 795 (1964).

31. Riemenschneider, R. W., J. Turer and R. M. Speck, Oil and Soap 20, 169 (1943).

32. Riemenschneider, R. W., F. E. Luddy, S. F. Herb and J. Turer, Ibid. 22, 174 (1945).

arer, 1010. zz, 174 (1945).
33. Schultz, H. W., E. A. Day and R. O. Sinnhuber, "Symposium on Foods: Lipids and Their Oxidation," The Avi Publishing Company Inc., Westport, Conn., 1962, pp. 3-5, 13.
34. Schwitzer, M. K., "Food Industries Manual," 18th Ed., Chemical Publishing Company Inc., New York, 1958, pp. 606-7.
35. Scott, G., "Atmospheric Oxidation and Antioxidants," Elsevier Publishing Company, New York, 1965.
36. Sidwell, C. G., H. Salwin, M. Benca and J. H. Mitchell Jr., JAOCS 31, 603 (1954).
37. Stuckev, B. N. E. R. Sharwin and F. D. Hanneh, Jr., Thia.

37. Stuckey, B. N., E. R. Sherwin and F. D. Hannah Jr., Ibid. 35, 581 (1958).

 Stuckey, B. N., and C. E. Osborne, Ibid. 42, 228 (1965).
 Swern, D., "Bailey's Industrial Oil and Fat Products,"
 Ed., Interscience Publishers Inc., New York, 1964, pp. 68-87. 3rd

40. Tarladgis, B. G., A. M. Pearson and L. R. Dugan, J. Sci. Fd. Agric. 15, 602 (1964).

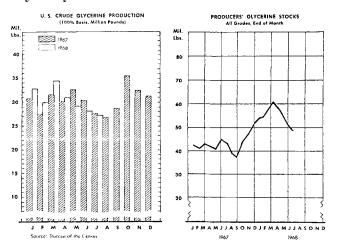
41. Tilgner, D. G., Food Tech. 16, 26 (1962).

41. Inglies, D. G., Food Tech. 10, 20 (1902).
42. Volz, F. E., and W. A. Gortner, JAOCS 24, 417 (1947).
43. Wheeler, D. H., Oil and Soap 9, 89 (1932).
44. Wintermantel, J. F., D. J. New and P. E. Ramstad, Cereal Sci. Today 6, 186 (1961).

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Production of Crude Glycerine

According to the U.S. Department of Commerce, production of crude glycerine (including synthetic) for July 1968 totalled 27.2 million pounds, down 0.8 million pounds from June, and down 0.7 million pounds from July last year.



At the end of July, producers' stocks of crude and refined glycerine totalled 49.4 million pounds, down 1.9 million pounds from June, but up 5.9 million pounds from July 1967.

• Obituary

Notification has been received of the death of Murray A. Wilson ('62) of the Victory Soya Mills Ltd., Toronto, Ont., Canada, a few months ago.



Science and art in combating rancidity

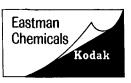
Depending upon how your current project is progressing, you may be either consoled or frustrated by the inability of computers to deal with the development of food products containing vegetable oils. With all the science we are able to apply - and it is considerable-a commercially successful food product remains a work of art.

There are reasons. One is the increasing number of vegetable oils offering opportunities to imaginative food technologists. Oils from a dozen or more sources are available today. Another reason is the increasing expectation of consumers that flavor will not only be better, but will also last longer (regardless of the conditions of storage and use).

A third reason is the complexity of deciding which antioxidant or antioxidant formulation is best for retarding oxidative rancidity in a given application, particularly on a commercial scale. We've pinpointed a number of factors that could influence this decision. When you consider that they include not only the initial quality and the end use of the oil, but also the concentration of trace metals, the moisture content, the degree of hydrogenation, the agitation techniques used in production, and the length of the stirring cycle -as well as other factors-you can see where the art comes in.

If you would like to make it easier to develop new food products, consider taking advantage of the art developed by the Eastman Food Laboratory staffthat of helping you use antioxidants effectively. Properly selected and applied, TENOX® Antioxidants can increase the storage life of vegetable oils, and carry through baking and frying operations to improve the "keeping quality" of foods prepared with stabilized oils. And to give you maximum handling convenience, we provide both solid TENOX BHA, BHT and PG and solutions consisting of various combinations of these in edible solvents, with chelating agents, citric acid or other components if needed.

You will also appreciate the fact that complicated equipment or special techniques are not needed with TENOX Antioxidants. For more specific details, write us about your current problem. Chemicals Division, EASTMAN CHEMICAL PRODUCTS, INC., Kingsport, Tennessee 37662.



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