

## Iron scavengers, good and not so good

The hydroxyl-carboxyl team needs no introduction to food chemists concerned with scavenging iron (and other harmful trace metals) in oils and fats. Because any of a number of chelating systems may be used to coordinate this ubiquitous element, however, it occurred to us to compare certain organic phosphates with citric acid. One we investigated was phytic acid, the hexaphosphoric ester of mesoinositol.

Samples of lard were made up to contain the substances noted in the chart (iron being added as ferric oleate) and stabilities were determined by the AOM.

Lard Sample	Iron (ppm)	BHA (%)	Phytic Acid (%)	Citric Acid (%)	AOM Stability*
1	0	0	0	0	8
2	1	0	0	0	1
3	1	0.01	0	0	2
4	1	0.01	0.01	0	7
5	1	0.01	0.05	0	36
6	1	0.01	0	0.01	16
7	1	0.01	0	0.05	30

\*hours to reach 20 meq. peroxide

As you can see, at high levels both phytic and citric acids are effective chelating agents, but at realistically useful concentration, citric wins hands down. Which is one of the various reasons why we still use it in many of our TENOX antioxidant formulations.

In closing this brief note, we call attention to the fact 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 plus invaluable practical experience, these technologists are well equipped to help solve your oxidative rancidity problems.

**SALES OFFICES:** Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Boston; Chicago; Cincinnati; Cleveland; Dallas; Detroit; Greensboro, North Carolina; Houston; Memphis; New York City; Philadelphia; St. Louis. **Western Sales Representative:** Wilson & Geo. Meyer & Company, San Francisco; Los Angeles; Salt Lake City; Seattle.

## W. C. Ault Retires After 25 Years' Service with USDA

W. C. Ault (1941), a veteran chemist in charge of research on animal fats at the US Department of Agriculture's Eastern utilization division in Wyndmoor, Pa. (near Philadelphia), has retired as of the end of the year 1966.

Dr. Ault is an outstanding authority on fat chemistry.



W. C. Ault

He is widely known for his leadership in the development of new plasticizers from fats, such as epoxides, which are now in wide commercial use, and vinyl stearate; for his contributions to opening up a 500-million-pound-per-year market for animal fats in poultry and other livestock feeds; for his direction of basic research which has created new markets for fats in lubricants and in other fields; and for his activity in the development of detergents from animal fats which are of particular interest today because of their biodegradability.

The US Department of Agriculture's Superior Service Award was presented to Dr. Ault in 1956, and on several occasions he received the award as head of teams of researchers in recognition of specific accomplishments. In 1948 the award was for improvements in the fatty emulsifiers used to make synthetic rubber during World War II, in 1951 it was for upgrading the quality of oleic acid from animal fats, in 1953 it was for the development of epoxy plasticizers, and in 1956 for the development of vinyl stearate.

In 1964, Dr. Ault received a special award of recognition for his leadership from the National Renderers Association. He is the author of about 70 publications and 20 patents covering various phases of fat chemistry.

Born on a farm near Van Wert, Ohio, Dr. Ault was educated at Ohio State University where he was a Phi Beta Kappa graduate in 1930 and where he received his PhD degree in 1934. He is adjunct professor of chemistry at Drexel Institute of Technology Evening College. He plans to continue teaching there after his retirement to do a limited amount of consulting.

An active member of American Oil Chemists' Society and associate editor of its journal, Dr. Ault served on the Society's program committee in 1956 and was its chairman in 1957. He was also program chairman of the Society's national meetings in 1955, 1960, and 1966. He has served on the AOCS education committee, and has been active in its Short Course program, for which he was program chairman in 1962.

The American Chemical Society has been another of Dr. Ault's active interests, and in 1957 he was chairman of the ACS Philadelphia Section. Dr. Ault is also a member of the American Association for the Advancement of Science and the Philadelphia Organic Chemists' Club.

### • *New Literature*

DERMA ENGINEERING COMPANY has available their 1967 catalog of automatic dispensing devices, including liquid proportioners, liquid injectors, powder feeders, spray foam system and solenoid valves. (10020 Big Bend Blvd., St. Louis, Mo. 63122)

GARDNER LABORATORY, INC. has issued a 52-page bulletin describing its quality control instruments for appearance measurements. Specifications and uses of its glossmeters, reflectometers, colorimeters and color-difference meters are given. (P.O. Box 5721 Landy Lane, Bethesda, Md. 20014)