

in the feed industry is purely an economic decision which is based on its price relative to competing protein materials, such as soybean meal, urea, and safflower meal in local areas. There has been an increase in the amount of cottonseed meal used by mixed-feed manufacturers for poultry and swine, in some areas as much as 10%, primarily because the price of soybean meal advanced sharply.

The volume of high-protein cottonseed meal which is used depends upon the price spread in the market at any one time. High-protein, low-fiber, and low-gossypol cottonseed meal demands a premium over 41% protein meal. In 1965-66 this premium ranged between \$12 and \$15 per ton, averaging \$13. When reduced to a unit-protein cost basis, this premium is in close relationship to that of 50% soybean meal over 44% because of higher quality, lower fiber, and other factors. The premium for low-gossypol meal is \$2-\$3 per ton, but it seems to be offered in sufficient quantities only on the West Coast.

Cottonseed Flour Utilization

The domestic utilization of cottonseed flour products has not changed appreciably over the past few years. Cottonseed flour continues to be used in miscellaneous bakery products. Industrial cottonseed protein products of U.S. manufacture are used in industrial fermentations in 15 foreign countries.

ACKNOWLEDGMENTS

Drawings for this manuscript are by G. I. Pittman, and photographs by A. F. Fayette and J. J. Bergquist.

REFERENCES

1. Decossas, K. M., C. L. Weber and E. L. Patton, *JAACS* 40(4), 4,6,7,16,18 (1963).
2. FAO Production Yearbook, Vol. 19, 1965, edited by Nafiz Erus, published in Rome, Italy.
3. Foreign Agr. Circ. FFO 11-66, Oct. 1966, FAS, USDA, Washington, D. C.
4. *Ibid.*, FFO 11-64, Oct. 1964, FAS, USDA, Washington, D. C.
5. Anonymous. "Cottonseed and Its Products," 6th Ed., 24 pp., 1962, Natl. Cottonseed Products Assoc. Inc., Memphis, Tenn.
6. U. S. Bureau of Census, Census of Manufactures: 1963, "Cottonseed Oil Mills," Industry Series MC63(P)-20H-1, Washington, D. C.
7. The International Green Book, 1965-66, Off. Pub. of the Nat'l Cottonseed Products Assoc., Dallas, Tex.
8. USDA Reports on Soybean, Cottonseed, and Flaxseed Processing for 1951-52. USDA 1958-53, Production and Marketing Admin., May 4, 1953, Washington, D. C.
9. U. S. Bureau of Census, Current Industrial Repts., Series M20J(64)-13 Fats and Oils, "Vegetable Oil Crushers: Summary for 1964," Washington, D. C.
10. Harper, G. A., "Production and Marketing Trends and Possibilities for Future Development," talk given at Cottonseed Processing Clinic, February 7-8, 1966.
11. U. S. Bureau of the Census, Current Industrial Repts. Series M20K(65) 2-12 and M20K(66) 1-8 (Preliminary), "Fats and Oils," Washington, D. C.
12. Anonymous. "Cottonseed Oil and Competing Materials, Consumption in Major End Uses" (three publications: 1955-59 (April 1960); 1956-60 (August 1961); and 1960-64 (August 1965), NCCA, Memphis, Tenn.
13. "Fats and Oils Situation"-235, November 1966, ERS, USDA.
14. Cowan, J. C., *Food Technol.* 19(9), 107-146 (1965).
15. Crivella, Bart J., "Salad Dressing, Mayonnaise, and Related Products," 1965, Food Industries Division, Business and Defense Services Administration, USDC, July 1966.
16. "Fats and Oils Situation"-232, March 1966, ERS, USDA.

[Received June 14, 1967]

Theory of Chromatography Course

Drew University announces a two-week short course entitled "The Theory of Chromatography—A Unified Approach" to be given July 29-Aug. 9, 1968. The purpose of this course is to acquaint the participants with the new rapidly developing theories of chromatography. Using a unified approach the following topics will be treated: Column Dynamics, Capillary Methods (TLC, Paper) Partition, Adsorption, Ion Exchange, and Gel Permeation. Lecturers will include W. D. Cooke, Walter Harris, R. A. Keller, Stephen Hawkes, Robert Pecsok, Lloyd Snyder, George Stewart, and Harold Walton.

Support for 25 academic participants will be provided by the National Science Foundation. Applications from industrial participants will also be received.

Further information and application forms can be obtained from the Director: Dr. J. M. Miller, Short Course on Chromatography, Drew University, Madison, New Jersey 07940.

Application forms must be submitted by March 1, 1968.

H. J. Dutton Named for 1967-68 Alton E. Bailey Award

Will Be Eighth Medalist

H. J. Dutton of the Northern Regional Research Development Laboratories, Peoria, Ill., has been named to receive the Alton E. Bailey Award for 1967-68.



H. J. Dutton

Dr. Dutton will be the eighth medalist since 1959, when the North Central Section of AOCS established the Award. The medal honors Alton E. Bailey, the Society's President in 1951, and recognizes outstanding research and service in the fields of oils, waxes and associated products.

Since obtaining his PhD in 1940 at the University of Wisconsin, Dr. Dutton has proved himself to be a dedicated scientist and an enthusiastic worker and collaborator and he has demonstrated an unusual amount of

ingenuity in the development and application of sophisticated analytical techniques.

His work has centered on the following areas:

Experimental Techniques. Dr. Dutton has made extensive contributions to the study of countercurrent distribution technique and its automatic monitoring. The use of gas-liquid chromatography and monitoring methods for it, plus the use of nuclear magnetic resonance and mass spectrometry have also proved to be fertile areas for his contributions.

Glyceride Composition. His publications in this field have dealt with the glyceride distribution in vegetable oils, in cocoa, and in butter. These may be cited along with his analytical techniques for *cis*- and *trans*-mono, di and trienes (and the location of double bonds) in partially hydrogenated vegetable oils.

Lipid Reactions. Dr. Dutton's work on the selective hydrogenation of soybean oil and the use of an analogue computer for studying the mechanism of this selectivity are important contributions which are currently of considerable industrial research importance. Further, his studies on the flavor stability of soybean oil, particularly the effect of metals and chelating agents helped to improve this edible oil.

Deteriorative Reactions of Lipids in Dried Eggs and Dehydrated Vegetables. In earlier work Dr. Dutton showed that changes in the colored dried egg powder correlate with the development of off flavors and to the chemical changes involved in flavor loss.

Sponsoring Companies

Sponsoring companies for this award are Anderson Clayton & Co.; Ashland Chemical Company, Division of Ashland Oil and Refining Company; Cargill, Inc.; Corn Products Company; The DeLaval Separator Co.; Distillation Products & Industries; Durkee Famous Foods; General Mills, Inc.; The Johnson's Wax Fund; Meade Johnson; National Dairy Products Corp.; Oscar Mayer Foundation, Inc.; and E. H. Sargent & Co.

Presentation of the Award will be made at the North Central Section dinner meeting, March 20, 1968.



DALLAS
TEXARKANA
FORT WORTH
MIDLAND
HOUSTON
BEAUMONT