

# Report on Fats and Oils

## Soybean Meal Comparisons

THE SPECULATOR in soybeans, who formerly had a chance to try his luck in the wide price swings which once characterized that market, may have become disheartened in the past year by the lethargy which has gripped it. He is likely to place the blame on government support programs which cushion price declines and at the same time almost seem to limit price advances by encouraging overproduction. Instead of cursing his fate however, he might be wise to examine more closely the soybean oil and soybean meal markets as possible outlets for his speculative inclinations. The now expiring crop year provides ample evidence that the products of soybeans, both independently and relative to each other, are capable of wide price changes despite the limited price movements of soybeans themselves.

It all goes back to the question of the balance between the demand for oil and that for meal which we discussed last month. As we mentioned then, these demands (in terms of soybeans) must necessarily be equal over long periods of time, but sometimes the prices of oil and meal have to perform some pretty fancy tricks to equate them. The 1957-58 crop year seems quite clearly to have been one wherein there was a tendency for the meal demand to exceed oil demand. As a result, the price of meal was strong (keeping its demand in check) while the price of oil was weak (to get the stuff sold).

Even within the framework of the long-term picture (which is by itself intriguing) there are equally interesting situations which occur, reflecting short-term imbalances which develop between the demand for oil and meal several times a year. No feed manufacturer or shortening manufacturer buys exactly  $\frac{1}{365}$  of his annual requirements of meal or oil per day, and as a result the demand for these items is far from being evenly distributed throughout the

Table I—Formula Feed Production and Soybean Meal Disappearance,<sup>a</sup> 1957-58

Type of feed	(Year beginning Oct. 1)	
	Total production	Soybean meal content
	(myn. tons)	(thous. tons)
Broiler.....	7.81	1,755
Turkey.....	1.78	472
Layer and other poultry.....	13.05	1,858
Dairy.....	6.88	700
Swine.....	4.90	2,245
Beef and sheep.....	2.35	119
Miscellaneous.....	1.54	158
Total.....	38.31	
Soybean meal:		
Consumed in formula feed (total of above).....		7,307
Industrial uses.....		30
Fed direct or custom-mixed.....		550
Export.....		295
Total disappearance.....		8,182
Production.....		8,170
Change in stocks.....		-12

<sup>a</sup> Estimated.

year. Even in this crop year which has been basically one of strong prices, there have been two periods (of several weeks each) when the demand for meal (because of inventory liquidations) almost seemed to vanish entirely, providing the agile speculator with trading opportunities contrary to the general pattern. Awareness of the mutual dependence of oil and meal prices has been increased this year. It used to be that whenever the question was asked, "Why is soybean oil weak?" the answer would be something like "because Spain failed to buy," or "because of speculative liquidation in futures," or "because lard is weak." More and more however it is becoming sufficient to say merely "because meal is strong."

Although it's pretty early to be looking at the whole new crop year, it might be worthwhile to try and get at least an approximate idea of what the requirements for soybean meal will be during 1958-59. Offhand they appear to be pretty good. Using preliminary figures, we can first estimate what feed production (by types) will turn out to be in the present year and then guess next year's. Making assumptions for the July-September period based upon recent poultry and livestock reports, we shall set up a table for 1957-58.

Since the table includes a considerable amount of guesswork, it may seem ludicrous to apply to it additional guesses of what variations will occur next year. (This process yields a guess of the second order, referred to in some circles as a courageous hunch. Guesses upon guesses are usually followed by revisions upon revisions before the story is told.) But if you keep waiting for official figures before putting anything down on paper, you'll miss all the fun. To consider broiler and turkey feeds first, we shall arbitrarily place production of them in 1958-59 at the same level as in 1957-58. It is true that there will be greater supplies of red meat to compete with poultry next year and that this might tend to diminish poultry numbers. On the other hand, it is also true that pressure on livestock prices is not likely to become really severe until late in the crop year, and even after that there are, of course, time delays before poultry production responds to the greater competition. Furthermore any cutback in broiler and turkey numbers which could eventually occur might be limited by what appears to be a long-term uptrend in favor of increased *per-capita* consumption of broiler meat.

When we consider the manufacture of layer feeds and other miscellaneous poultry feeds, we can be guided by the U.S.D.A. estimate that the size of the laying flock will be 2 to 4% greater in the year ahead and on this basis place the production of these feeds at 3% over last year. The most knotty problem arises when we consider swine feeds. We can estimate that the number of hogs to be fed will be around 15% higher than it was last year, but whether or not the high rate of consumption per animal can be maintained is questionable. Lower livestock prices may have an adverse effect on this factor, and as a result we shall quite arbitrarily guess that swine-fed production will be

**ARAPAHOE**  
TRADE-MARK

### ACS Reagent Grade SODIUM METAPERIODATE

Meets A.O.C.S. specifications Ea-6-51 for glycerol determination.

Action (April 1954) of the American Oil Chemists' Society makes the sodium periodate oxidation method the only one approved for the determination of glycerol.

### ACS Reagent Grade POTASSIUM METAPERIODATE

Assay: 99.8-100.3%. Solubility: Very slight in water; soluble in alkali. Used for colorimetric determination of manganese in steel analysis, etc.

Both ARAPAHOE SODIUM METAPERIODATE and ARAPAHOE POTASSIUM METAPERIODATE are now available from major chemical supply houses as well as from ourselves. They are economical and of the best quality.

Be sure to specify ARAPAHOE when ordering.  
Write to Dept. "I" for data and samples.

**ARAPAHOE CHEMICALS, INC.**  
2800 PEARL STREET • BOULDER, COLORADO  
PRODUCERS OF FINE ORGANIC CHEMICALS

only 8% higher than in 1957-58. (This is a genuine shot in the dark.) To conclude, we can place dairy feed manufacture at the same as last year, and beef, sheep, and miscellaneous feeds down 5%. These classes were helped by a severe cold spell last winter, which may not be repeated.

If you now apply all these estimated changes during 1958-59 to the soybean meal figures in Table I, you will find that the indicated consumption of soybean meal in formula feeds turns out to be 7,530,000 tons during the year which will begin in October. As usual, the factor most likely to be the key will be swine-feed production. Before going one, we shall arbitrarily diminish this by 200,000 tons to allow for some replacement of soybean meal by the likely increased supplies of animal by-product proteins and, with a bold hand, shall therefore write our figure down to 7,330,000 tons.

To complete the guesswork, we can construct Table II.

Table II—Estimated Production and Disappearance of Soybean Meal 1958-59, with Comparisons (thousand tons)  
Year beginning Oct. 1..... 1957<sup>a</sup> 1958

Soybean meal:		
Consumption in formula feeds.....	7,307	7,330
Industrial uses.....	30	30
Fed direct or in custom-mixes.....	550	525
Exports.....	295	300
Total disappearance.....	8,182	8,185
Production.....	8,170	8,185
Change in stocks.....	-12	0

<sup>a</sup> From Table I.

We didn't really plan that the 1958-59 figures should come out so close to those for 1957-58. It just turned out that way. In November, incidentally, the American Feed Manufacturers' Association will release its excellent annual report on estimated feed requirements and will throw some light on this subject. In a later issue we shall attempt to examine the demand for oil to see if it will measure up to that for meal.

R. D. WILLEMIN SR.  
Merrill Lynch, Pierce, Fenner,  
and Smith, Chicago, Ill.

## Meeting Calendar . . .

- September 7-20, 1958—Société de Chimie Industrielle, 31st international congress of industrial chemistry, Liège, Belgium
- September 9-12, 1958—American Chemical Society, 134th national meeting, and National Chemical Exposition, Chicago, Ill.
- September 15-19, 1958—Instrument Society of America, 13th annual instrument-automation conference and exhibit, Philadelphia, Pa.
- September 21-24, 1958—American Institute of Chemical Engineers, national meeting, Hotel Utah, Salt Lake City, Utah
- September 22-24, 1958—Standard Engineers Society, seventh annual meeting, Benjamin Franklin hotel, Philadelphia, Pa.
- September 23-25, 1958—International Society for Fat Research, third congress, Seville, Spain
- October 5-8, 1958—Federation of Paint and Varnish Production Clubs, 36th annual meeting and 23rd Paint Industries' Show, Cleveland Public Auditorium, Cleveland, O.
- October 6-7, 1958—National Association of Corrosion Engineers, southwest regional meeting, Richmond, Va.
- October 6-8, 1958—National Association of Corrosion Engineers, northeast regional conference, Boston, Mass.
- October 15-17, 1958—National Association of Corrosion Engineers, north central regional meeting, Cincinnati, O.
- October 20-24, 1958—National Safety Council, 46th national safety congress, Chicago, Ill.
- October 20-24, 1958—National Association of Corrosion Engineers, south central regional conference, New Orleans, La.
- October 22-24, 1958—American Vacuum Society, fifth national vacuum symposium, Sir Francis Drake hotel, San Francisco, Calif.

# What you should know about

# Sústane<sup>®</sup>



for  
fat-containing  
foods

Available in 5 different forms and 7 formulations, these remarkable antioxidants offer significant values and advantages.

- **Greatest carry-through**, prevents rancidity before, during and after processing.
- **Thermally and chemically stable**, retains antioxidant values through cooking, baking, deep frying.
- **Compatible with other ingredients**, even at elevated temperatures.
- **Assures increased shelf life** for fat-containing foods, pleases dealer and housewife alike.
- **Convenient to use**—available in liquid, powder, crystalline, flake and tablet form.



Antioxidant	Form	Products Protected
Sústane BHA	Tablet	Lard
Sústane 3-F	Flake	Shortening Edible Tallow
Sústane 3	Liquid	Oleo Oil Rendered Beef Fat Frying Oils
Sústane 1-F	Flake	Inedible Tallow Inedible Grease
Sústane 6	Liquid	Paraffin Waxes Citrus Oils
Sústane 8	Liquid	Essential Oils Fish Products
Sústane BHT	Crystalline	Confections

Technical assistance is available to aid you in selecting the most effective formulation for you. Write today for details.



**UNIVERSAL OIL PRODUCTS COMPANY**  
30 Algonquin Road, Des Plaines, Illinois, U.S.A.



**SOYBEAN CONFERENCE**—(front row, left to right) F. H. Hafner, General Mills, chairman, Soybean Research Council; H. L. Wilcke, Ralston-Purina, retiring chairman; R. L. Terrill, Spencer Kellogg; W. D. Maclay, J. C. Cowan, C. D. Evans, C. H. Van Etten; (second row) J. W. Cole, Glidden; W. N. McMillen, Staley; W. W. Cravens, McMillen Feed Mills; J. W. Hayward, Archer-Daniels-Midland; K. F. Mattil, Swift; A. R. Baldwin, Cargill; L. E. Gast; (third row) M. J. Brinegar, Allied Mills; C. M. Wilson, Borden; A. K. Smith, R. W. Jackson; R. G. Houghtlin, president, National Soybean Processors Association; H. J. Dutton, F. B. Weakley, E. L. Griffin, H. M. Teeter; P. A. Aines, Buckeye Cellulose. All for whom company affiliate is not given are at the Northern Utilization Research and Development Division, U.S.D.A., Peoria.

### Discuss Soybean Topics

THE 1958 soybean utilization conference was held June 20 at the Northern Utilization Research and Development Division, U.S.D.A., Peoria, Ill., as an annual meeting of the Division and the Soybean Research Council of the National Soybean Processors Association. Thirty-five attended.

The value of such an exchange of information was mentioned by W. D. Maclay, director of the utilization division, in his welcoming address. J. C. Cowan, chief of the oilseed crops laboratory of the Division, outlined the program in oilseed research, pointing out that emphasis is on industrial utilization of vegetable oils but that work is continuing on flavor stability and meal.

W. W. Cravens, McMillen Feed Mills, suggested that more be done on the minor components of soybean meal. J. W. Cole, Glidden Company, discussed the research needed on soybean oil.

Others on the program and the subjects they discussed were C. H. Van Etten, amino acids in soybean proteins; F. B. Weakley, the alleged antithiamin factor; C. D. Evans, research in edible soybean oil; L. E. Gast, plasticizer studies; and H. J. Dutton, labelling fatty acids.

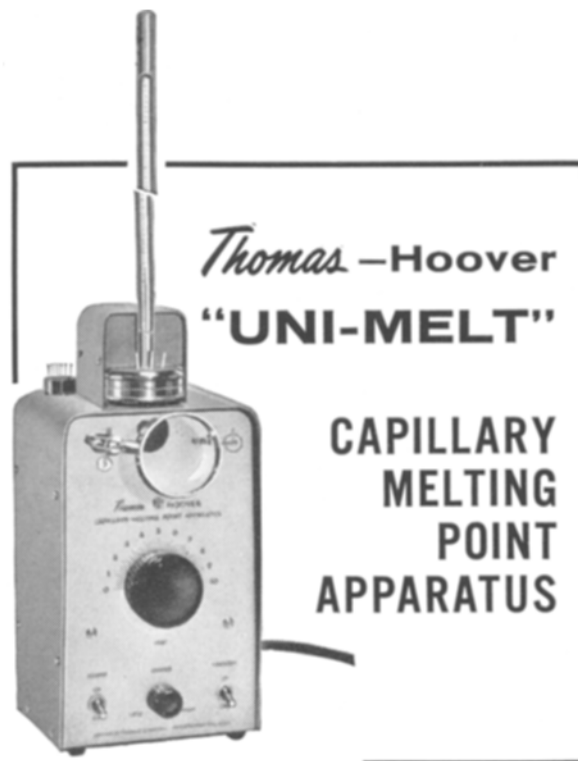
### Fatty Acids Rise

PRODUCTION of fatty acids in June 1958 totalled 37.1 million lbs., about 6.2 million lbs. more than the May level, according to the Fatty Acid Producers' Council, New York. Production of types reported last year (without fatty acids from tall oil) was 32.0 million lbs. in June 1958 as compared to 35.1 million for the same categories last year.

The June production of fatty acids from tall oil in the less-than-2%-rosin category was 5.1 million lbs. as compared to 5.5 million in May.

Total fatty acid disposition in June was 32.0 million lbs., in comparison to 34.4 million lbs. for May. June shipments of fatty acids from tall oil totalled 4.4 million lbs. Disposition of types reported last year was 27.7 million lbs. in June 1958 as compared to 31.6 million a year ago.

Finished goods inventories for all acids totalled 46.9 million lbs. at the end of June as compared to 42.2 million at the end of May, the rise being principally in saturated acids. Work-in-process stocks fell about 1.7 million lbs.



Developed by Dr. John R. E. Hoover, of Philadelphia, for determining with ease and accuracy capillary melting points in accordance with official U.S.P. and other methods.

Consisting of oil bath with electric stirrer, lightweight heating element controlled by autotransformer, built-in capillary vibrator, etc., combined in a single sturdy unit.

The lightweight heating coil offers the advantage of rapid response to changes in input voltage. This permits heating the bath rapidly to within a few degrees of the anticipated melting point and then quickly reducing the heating rate to raise slowly the temperature until melting occurs. The bath may then be cooled rapidly for the next determination by attaching the laboratory compressed air line to the fitting provided.

A standard 100 ml beaker of borosilicate glass is used as the melting point bath, eliminating replacement of costly custom glassware in the event of breakage. The bath is protected from dust and air currents by being completely contained within the instrument case. Observation of the melting point is facilitated by the magnifier and adjustable, self-contained lighting. Oil bath is stirred by an electrically driven stirrer with speed controlled from instrument panel. Provision is made for running as many as five samples simultaneously.

A unique feature of the apparatus is a built-in capillary vibrator which permits the capillaries to be shaken violently and uniformly, thereby insuring uniform packing of sample in the capillary. Instrument is housed in a gray metal case, with thermometer protected by metal guard. For ease in replacing or changing the bath liquid, bath assembly, including stirrer and thermometer, can be lifted out of the cabinet.

**6406-H. Capillary Melting Point Apparatus, Thomas-Hoover "Uni-Melt,"** electrically heated, as above described, complete with thermometer—10 to 360°C, calibration standards, heating rate calibration chart, 3 oz. Silicone Oil, 1 vial Capillaries, and 6 ft. three-wire connecting cord with 2-prong attachment plug cap; for 115 volts, 60 cycles, a.c. .... **170.00**

### ARTHUR H. THOMAS COMPANY

More and more laboratories rely on Thomas Laboratory Apparatus and Reagents  
VINE ST. AT 3RD • PHILADELPHIA 6, PA.

# B-C is BEST!

## Year In and Year Out Day In and Day Out

Most edible oil refiners have found this  
statement true over the years

**IF you want....**

- economical bleaching
- less FFA rise
- greater stability
- less filter cloth replacement
- better clay uniformity

*In other words*  
**Better-Cheaper Bleaching**

### USE B-C



## **BENNETT-CLARK CO., Inc.**

P. O. Box 951  
NACOGDOCHES, TEXAS

Clyde C. McInnes, formerly manager of the Solvent Extraction Division in Chicago, will be in charge of the office and storage terminal of the American Mineral Spirits Company, St. Paul. With Amsco for 25 years, he is widely known in the paint industry and is a past president of the Chicago Paint, Varnish, and Lacquer Association.



## *New Literature...*

**GAS CHROMATOGRAPHY NOTEBOOK.** A 24-page notebook with a section demonstrating techniques on fatty acids and terpene analysis. Wilkens Instrument and Research Inc., Box 313, Walnut Creek, Calif.

**STAINLESS STEEL IN CHEMICAL PROCESSING.** A 40-page booklet with special sections on soaps, synthetic detergents, and dyes. Allegheny Ludlum Steel Corporation, Oliver building, Pittsburgh 22, Pa.

**EXPPELLERS FOR VEGETABLE OIL EXTRACTION.** A new 12-page catalog, No. 458, describing the complete line of Anderson twin-motor Super Duo Expellers. V. D. Anderson Company, 1935 W. 96th street, Cleveland, O.

**CORROSION-RESISTANT PROCESS EQUIPMENT.** A 12-page bulletin, No. 968, on glassed-steel and alloy equipment. The Pfaudler Company, 1070 West avenue, Rochester, N. Y.

**FEED-GRADE ANTIOXIDANTS FOR POULTRY AND ANIMAL FEEDS.** Brochure G-103, describing the use and effectiveness of Tenox BHT antioxidants. Eastman Chemical Products Inc., Kingsport, Tenn.

**PRESSURE LEAF FILTERS.** An 8-page bulletin, No. 146, devoted to horizontal- and vertical-tank types of filters. T. Shriver and Company Inc., 810 Hamilton street, Harrison, N. J.

**HOW TO SELECT STEAM TRAPS AND FLUID SPECIALTIES.** A 40-page manual. V. D. Anderson Company, 1935 W. 96th street, Cleveland 2, O.

**SCIENTIFIC APPARATUS AND METHODS.** Vol. 10, No. 2 (1958), containing a 15-page article on "Automatic Spectrophotometric Titration by the Second Derivative Method." E. H. Sargent and Company, 4647 W. Foster avenue, Chicago 30, Ill.

**CAREERS IN AGRICULTURE.** A 24-page brochure with sections devoted to research and industry. University of Illinois, College of Agriculture, Urbana, Ill.

---

Foster D. Snell Inc., consulting chemists and engineers, New York City, and Robert S. First, industrial consultant, have organized a joint intelligence project to bring scientific discoveries in Europe to the attention of American industry. The survey will cover process and product technology in chemical, plastics, and pharmaceutical industries in eight countries and is available on a limited subscription basis.

# Tired of service talk about vitamin A?

Not we. Vitamin A is a competitive product. We know we can't stay on top on the basis of product only. So we like to give service that shows our customers we have their best interest at heart, too.

All kinds of service. We'll work with you on your fortification problem and help you specify the type of vitamin A that's best for your product. Then we'll package the vitamin in cans to your order so you need only empty one can in each batch and forget it. We'll work out shipping dates to match your production so you can keep your working inventory to a minimum.

Speed, too. There's one of our sales offices as near as your phone. And the man you talk to has the home office as near as his phone, in case your question or problem is one he can't solve on the spot. We'll move fast.

Fine service, fine products . . . *Myvax*<sup>®</sup> *Vitamin A Acetate* or *Palmitate* in bulk or as *Myvapack*<sup>®</sup> *Vitamin A* in custom-packed cans. Also *Myvax Dry Vitamin A Palmitate* for those who want a high potency, highly stable dry product. *Distillation Products Industries*, Rochester 3, N. Y. Sales offices: New York, Chicago and Memphis • W. M. Gillies, Inc., West Coast • Charles Albert Smith Limited, Montreal and Toronto.



**leaders in research and production of vitamin A**

Also . . . vitamin E . . . distilled monoglycerides . . . some  
3600 Eastman Organic Chemicals for science and industry

**Distillation Products Industries**

is a division of **Eastman Kodak Company**

## Industrial Items . . .

The eighth edition of "Principles and Practice of Flow Meter Engineering" by L. K. Spink has been published by The Foxboro Company. The 549-page text book is available at \$15 a copy from The Foxboro Company Ltd., 707 Dollard avenue, Town of LaSalle, Montreal, P. Q., Canada.

Two new publications available from the National Fire Protection Association, 60 Batterymarch street, Boston 10, Mass., are the 1958 Standard for Portable Fire Extinguishers (NFPA No. 10, 84 pp., 60¢) and a revised pamphlet on "Hazards of Vaporizing Liquid Extinguishing Agents" (No. 182-M, 8 pp., 25¢).

Class schedules for the 1958-59 courses on gas chromatography and low and high temperature distillation are available from Podbielniak Institute, 341 E. Ohio street, Chicago, Ill.

A new 3,000 ton/month unit for fractionating crude tall oil is in commercial production at the St. Louis plant of Monsanto Chemical Company. Owned jointly by Monsanto and by Emery Industries Inc., the unit separates crude tall oil, barged from Florida mills to the St. Regis Paper Company, into fractionated tall fatty acids for Emery and high quality tall oil rosin for Monsanto.

The chemical products division of Chemetron Corporation has developed a reduced, stabilized nickel catalyst which is nonpyrophoric so that it can be supplied without any type of protective medium. Designated G-49, it will be added to the company's line of Girdler catalysts and produced at the Louisville, Ky., plant.

The first complete "Compilation of Labeling Laws and Regulations for Hazardous Substances," a 114-page book covering the laws in 16 states and cities as well as the Federal Caustic Poison Act, is available at \$5 a copy from the Chemical Specialties Manufacturers Association, 50 E. 41st street, New York 17, N. Y.

The first U. S. plant to produce vinyl stearate in commercial quantities is on stream at Calvert City, Ky., where it is the fifth Aircro facility to be completed since 1953 by Air Reduction Chemical Company.

"Foundation for the Future," an 80-page, hard-cover book commemorating the 75th anniversary of Benjamin Moore and Company, New York City, was presented in August to independent paint dealers and distributors in the United States and Canada.

### Girdler Announces New Packaging Machine for Margarine

DEVELOPMENT of a new high-speed, print-forming, and wrapping machine for margarine has been announced by the Girdler Process Equipment Division of Chemetron Corporation, Louisville, Ky. The new Votator unit is the only commercially available equipment that can form and wrap either the new whipped margarine or conventional margarine. Only a few minutes are required to switch the unit from packaging one kind of margarine to the other.

The machine is rated to form and wrap quarter-pound prints of regular margarine at 5,000 to 6,000 lbs. an hour. Capacity for whipped margarine, in which six prints form a pound, is 3,000 to 3,400 lbs. an hour. The machine was tested in a pilot plant for more than a year, and for the past five months it has been tested on a commercial scale at the Baltimore plant of J. H. Filbert Inc.