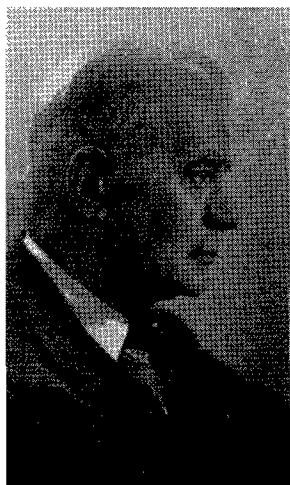


Dutch Form Fat and Oil Section

A DUTCH SECTION for fat chemistry and surface-active agents was established in Amsterdam on December 21, 1957. This section is a division of the Royal Netherlands Chemical Society. For several years there has been an increasing need for actual cooperation of all workers in the field of fats, oils, and soaps in the widest sense of the word, especially after the establishment of the International Society for Fat Research in 1954.



S. H. Bertram

On the initiative of F. D. Tollenaar, together with S. H. Bertram and H. A. Boekenooogen, a convocation notice was put in the periodical of the Royal Netherlands Chemical Society. More than 100 expressions of interest were received. The many declarations of support were evidence that a section for fat chemistry and surface-active agents would meet a long-felt want.

At the founding meeting under the chairmanship of Dr. Bertram, the steering committee gave an explanation of the purpose, plans, and program of the proposed section. As its principal task the section would set out to promote mutual contact between its members and to enter into relations with foreign societies and groups engaged in the field of oils and fats.

The section hopes to realize its aims by organizing meetings and symposia. At these meetings the members will be requested to tell something about their own work; strictly speaking, it will not be necessary to communicate complete results. On the contrary, it will be preferable to bring to the fore the difficulties of investigations in order to get fruitful discussions. At the same time one or more lectures on problems which are in the news will be made part of section papers. If necessary, foreign lecturers or experts can be invited in the latter case. Besides the regular meetings the section will seek joint meetings in cooperation with other

sections of the Royal Netherlands Chemical Society, in which topics of common interest will be discussed.

The cooperation with foreign sister-societies will, for the present, consist in attending and rendering assistance to international meetings as far as this is possible.

THE ORGANIZATION of the section is as follows. The board consists of six members, one of whom is commissioned by the General Board of the Royal Netherlands Chemical Society. The other members are elected by the members of the section at the annual members' conference. Preferably the board will be constituted in such a way that there are two members from industries, one from governmental institutions, one from semi-governmental institutions, and one from private laboratories. In this way the section will be sure to represent all groups properly.

At the moment the total number of members is 90. The board has good hopes that this number will increase to more than 100 in the near future.

After the organization a questionnaire was sent to the members on analyses, technical manufacture, and keeping quality, both on oils and fats and surface-active agents. The members were asked to indicate in which field they were interested. The following results were obtained:

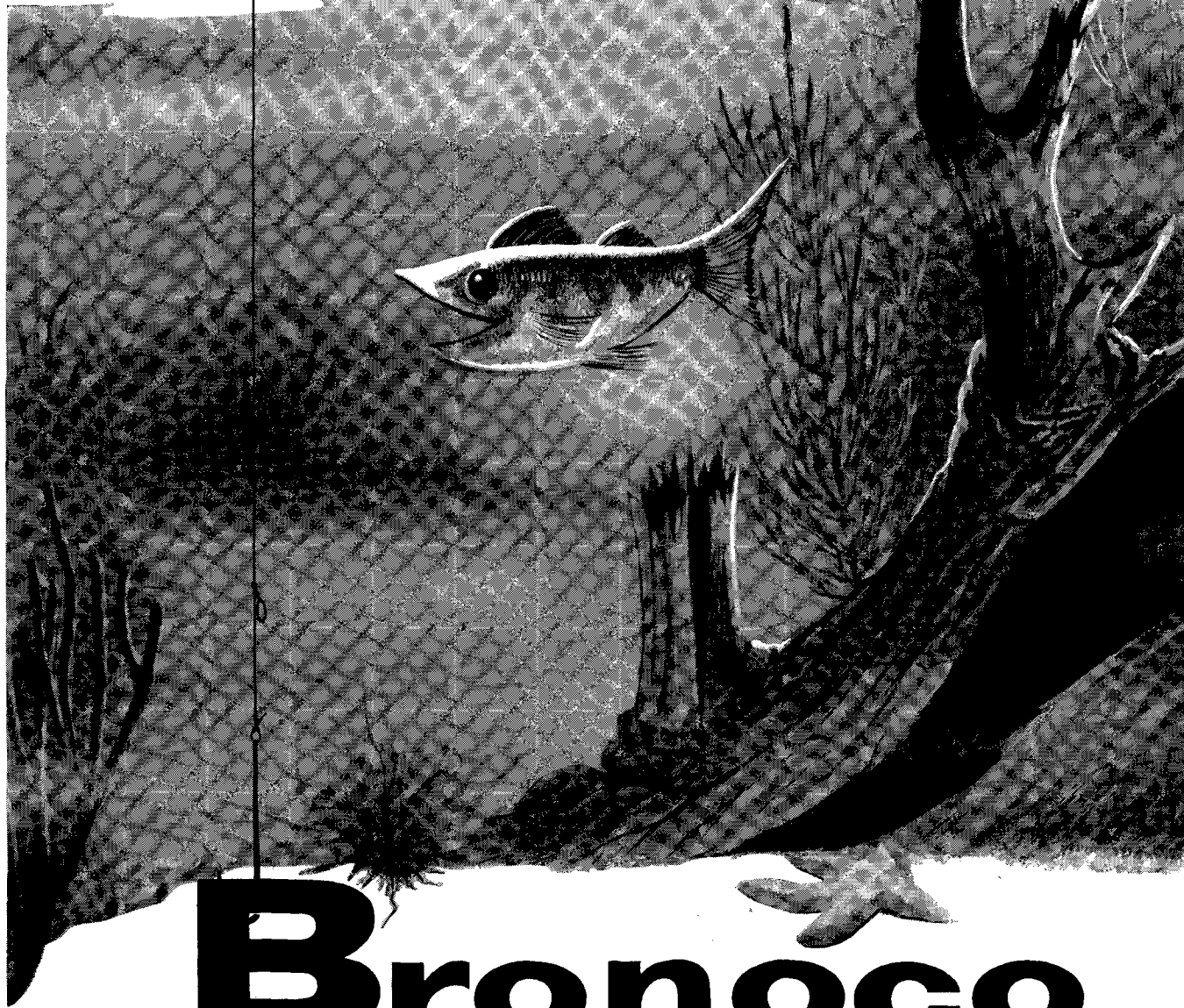
Oils and fats	Surface-active agents, including soaps and detergents
79 % analytical problems	40.8% analytical problems
63 % technical manufacture	26.5% technical manufacture
23.5% biochemical problems	23.5% toxicological research
64.5% matters of keeping quality	

As a matter of fact, these percentages will serve as a guide for the forthcoming development of the new section.

ON APRIL 25, 1958, the first section meeting was held in Utrecht, attended by about 70 members. This may be considered a great success. During the morning session several members talked on their own investigations. J. Limburg (Zwolle) discussed methods for the estimation of the cleaning properties of detergents. E. H. Meursing (Koog aan de Zaan) talked about his experiences with ion-exchange resins used for the refinery of oils, especially for the removal of the free fatty acids. J. C. Riemersma (Leyden) surveyed the possibilities for the identification of animal and vegetable oils in mixtures by means of paper-chromatographic separation of the sterols. J. C. Meys (Heerlen) described mixed molecules, consisting of a complex of a metal with silicic acid and carboxylic acids.

(Continued on page 10)

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Report on Fats and Oils

Impact of Hog Numbers and Lard Production on the Soybean Industry

THE SOYBEAN PROCESSOR may be thankful that the U.S.D.A. over-estimated the 1957 spring pig crop by such a wide margin as it did. We do not mean to suggest that estimates can alter facts; but if there were any one thing which improved the outlook for the processor as the 1957-58 crop year wore on, it was the growing recognition that there would be fewer hogs slaughtered than the original U.S.D.A. spring pig crop estimate indicated. Each time that it became necessary to reduce official estimates of lard production, the soybean crusher could see a greater need for his oil. From mid-November until recently, guesses about the 1957-58 soybean crush were raised from 325 million bushels to around 340 million bushels. This sort of thing has happened in past years, usually as a result of improvements in the export outlook for soybean oil. This year however the total exports of soybean oil will be just about as expected earlier, and for quite a while even this appeared doubtful. It seems quite clear that the improvement in the outlook for soybean oil demand in recent months is directly related to the failure of lard production to come up to expectations. The increase of 15 million bushels in soybean-crushing estimates is equivalent to 160 million lbs. of oil, just about the amount by which estimates of lard production have been lowered.

A Network of Relationships

This lower-than-expected number of hogs incidentally is a multipronged factor so far as the soybean processor is concerned. Lard production is lower not only because of the fewer animals slaughtered but also because lard yields per animal tend to go down when hog prices are high, apparently because packers leave more fat on meat cuts. High hog prices also result in a demand for soybean meal, which is probably better than it would be if hogs were more numerous and lower-priced. Fewer hogs also mean less production of animal proteins and consequently less competition for soybean meal. We might suggest that if the original U.S.D.A. 1957 spring pig report had been correct, the 1957-58 lard production would be considerably higher, the demand for soybean oil poorer, livestock and poultry prices lower, feed business slower, animal proteins more plentiful, demand for soybean meal worse, soybean crushings smaller, processing margins narrower, and processors sadder.

Most of these influences of hog numbers on the soybean industry have subtle counter-influences, and any attempt to pursue all the logical consequences of any one factor inevitably leads to a maze of considerations involving feed grains, livestock, cotton, and what-not. The one aspect of this maze which we want to discuss more fully here is the nature of the competition between lard and soybean oil.

Despite the much discussed interchangeability of most fats and oils, lard and soybean oil do not compete on a broad front. There are many uses for each where the other is not a competitor. In fact, the principal battleground lies in the field of shortening manufacture, where each is an important raw material.

Nature of Domestic Lard Consumption

After the export demand for lard is satisfied, the total domestic demand may be divided into two parts: (a) the direct demand for lard which enters directly into consumption as lard; and (b) the demand for lard consumed in the manufacture of shortening. The former is, for all practical purposes, a fixed demand and is quite insensitive to price. It represents the slowly changing tastes and preferences of many individuals. Over a period of years, of course, this demand does change, and on a *per-capita* basis it appears to be in a long term downtrend. In the last crop year 1,425 million lbs. of lard were consumed directly as

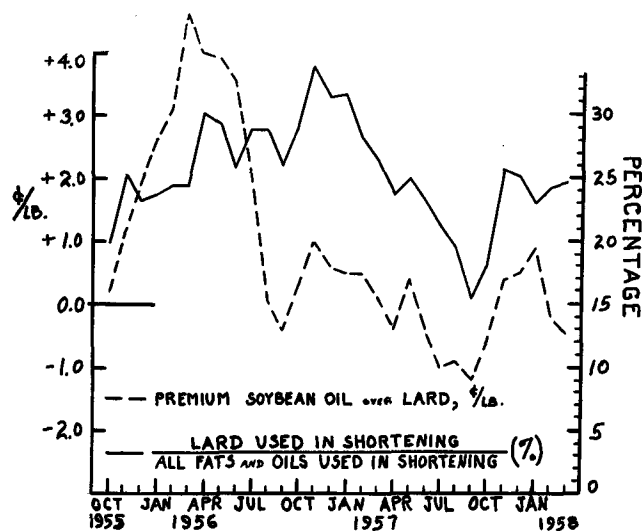


FIG. 1. Premium soybean oil (crude, f.o.b. midwest points) over loose lard (Chicago basis) and consumption of lard in shortening as percentage of total fats and oils so consumed.

lard, about three fourths of the total domestic disappearance.

It is the second type of domestic demand where the competition with soybean oil exists, and we might call this the competitive demand for lard. It is this demand with which the soybean processor must concern himself. It is a pretty safe bet that over any period of time the quantity of lard (except for temporary changes in stocks) which is left over after the export and fixed domestic demands are met will enter into the manufacture of shortening in direct competition with soybean oil. The behavior of the price of lard with respect to soybean oil is very closely related to the size of this "surplus" of lard which must find its market in blended shortenings. In the chart this relationship appears rather strikingly during the period since the summer of 1956. (Prior to that time the shortening industry was not geared to consume lard in the quantities which it is capable of using today.) The dashed line in the chart is the premium, in cents per pound, of crude soybean oil (f.o.b. midwestern points) over loose lard (Chicago basis). A negative value indicates that soybean oil was at a discount. The solid line represents the percentage of lard in manufactured shortenings. It is arrived at by dividing the amount of lard used in the manufacture of shortening and "other edible"¹ products by the total of all fats and oils used in shortening.²

It can be observed that in February and March of this year the use of lard in shortening was not adversely affected by the fact that lard gained a premium over soybean oil, as might have been expected from earlier behavior. We expect that this reflects an increasing desire on the part of the manufacturer to use lard in his products.

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¹ Census Bureau classification. Since the Census Bureau does not consider a product to be "shortening" unless it includes vegetable oils, the consumption of lard in "other edible" products represents principally lard used in the manufacture of shortenings blended entirely from lard and other animal fats.

² Includes lard used in "other edible" products.

Publishes German Meeting Report

The November 1957 issue of *Fette-Seifen-Anstrichmittel* carries a complete report of the 1957 meeting in Berlin of Deutsche Gesellschaft für Fettwissenschaft e. V. as well as abstracts of the 72 technical papers presented.

Among the speakers were W. O. Lundberg, Hormel Institute, University of Minnesota, Austin; H. P. Kauffmann, University of Münster, Münster, Germany; and D. K. Chowdhury, Calcutta University, Calcutta, India. Dates of the meeting were October 13-18.



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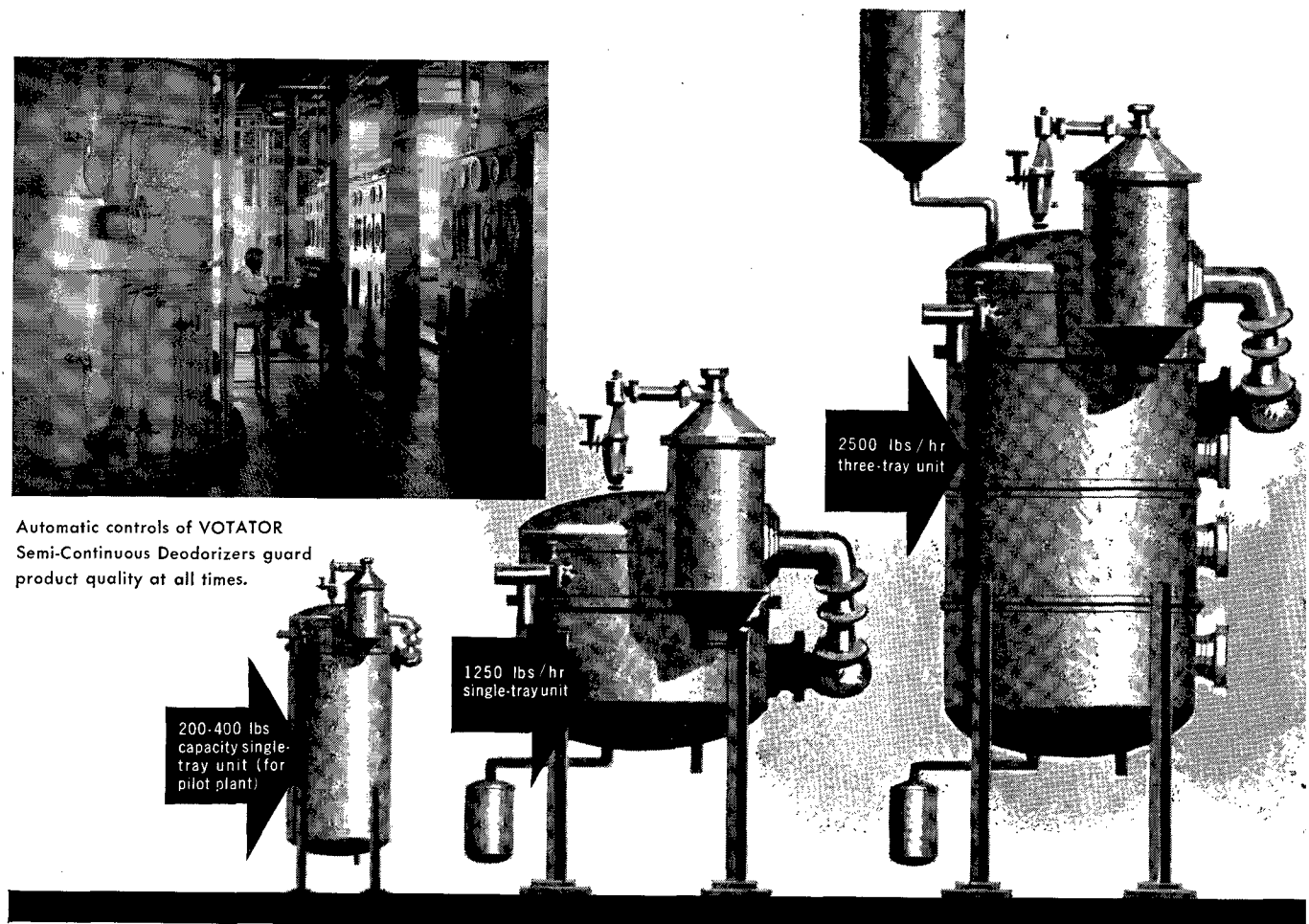


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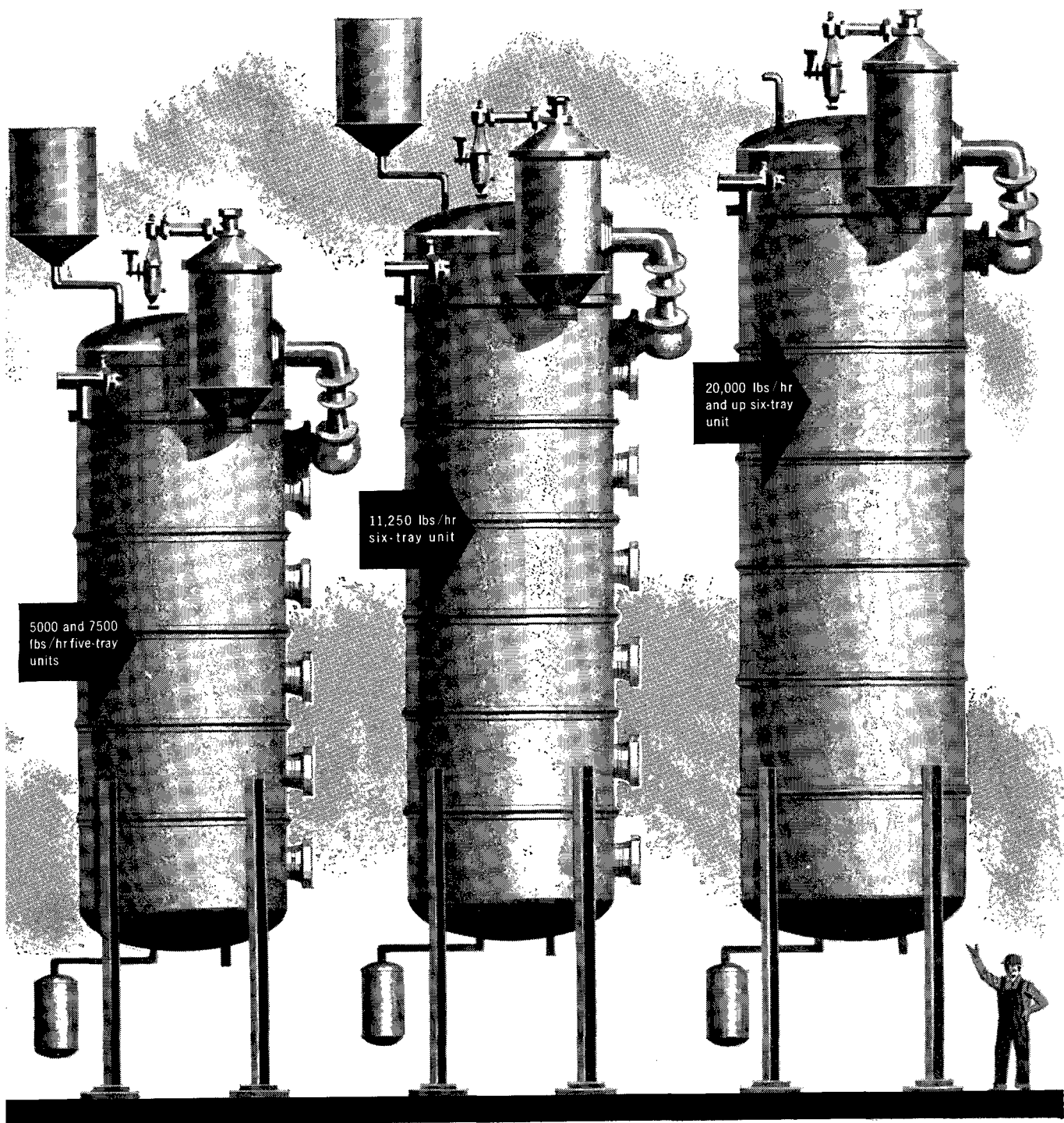


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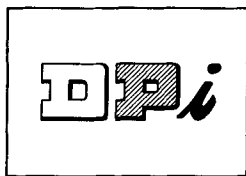
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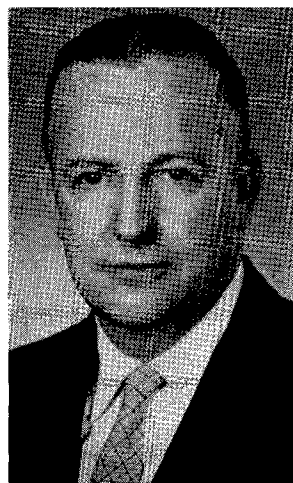


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E. W. Colt has been appointed assistant research director in charge of the technical services department, Research and Development division, Lever Brothers Company, Edgewater, N. J. He was formerly with Armour and Company, Chicago.

A.O.C.S. Commentary

(Continued from page 4)

Dr. Bertram reported that he had found a demonstrable quantity of erucic acid in the egg yolk of ducks. Finally H. J. Vos (Utrecht) spoke about the estimations of antioxidants, especially BHT, in oils and fats.

After a very lively luncheon, attended by almost all the visitors, B. Vromen (Haifa) gave a survey of the results which he had obtained in the manufacture of surface-active agents from mineral oil fractions. The last speaker of the meeting was H. I. Waterman (Delft), who gave his opinion on the future development of the oil and fat industry in the Netherlands. This important discourse, forming a worthy end to the first section meeting, will be published in *Het Chemisch Weekblad*. Each communication was followed by discussion, which sometimes provided the speaker with valuable tips.

The success of this first meeting has furnished convincing proof that interest is especially focussed on short papers. As a result, the board has decided to arrange more meetings of this kind in the near future.

H. J. Vos, secretary
Oranje Nassaulaan 29
Bilthoven, Holland

July 15 Is F.A.A. Deadline

A REMINDER of the July 15 deadline for manuscripts submitted in the 1958 Fatty Acid Award competition is provided by C. W. Hoerr, Armour and Company, chairman of the special committee of the American Oil Chemists' Society, which administers the award for the Fatty Acid Producers Council of the Association of American Soap and Glycerine Producers Inc.

Announcement of the winner(s) will be made during the fall meeting of the Society at the Sherman hotel, October 20-22. The award of \$500 is given for work done in an educational institution in the United States or Canada while the individual is a candidate for a degree or on the staff of an educational institution within one year after receipt of such a degree.

Submission of a paper or thesis may take place within one year after the author is graduated. In respect to team authorship, at least one of the candidates must meet the requirements as set forth, in which event the entire team shall be considered eligible for the award.

Judges of the best manuscript will be B. M. Craig, Prairie Regional Laboratory, National Research Council, Saskatoon, Saskatchewan; R. T. Milner, Department of Food Technology, University of Illinois, Urbana; and C. F. Raschke, Conway Oil Company, Denison, Tex.