U. S. Surpluses of Oils and Fats in World Markets[1]

E. L. BURTIS, Food and Agriculture Organization of the United Nations, Washington, D. C.

I WAS HAPPY for several reasons to receive Mr. T. H. Hopper's invitation to speak on the world fats and oils situation. It is instructive and pleasant for me, as an economist in fats and oils, to hear at first hand about current developments in chemistry and processing technology and to meet the experts in this field. A second very good reason was that this invitation gave me the occasion for visiting New Orleans for the first time. A third reason is that it gives me an opportunity to introduce my organization, the Food and Agriculture Organization of the United Nations, to those of you who may not be acquainted with its activities.

Briefly stated, the primary purpose of the Food and Agriculture Organization is to promote international cooperation for better nutrition and better agriculture. FAO, as the organization is called for short, is a small agency in comparison with most departments of the U. S. Government. Over half of FAO's activity at present is in the field of technical assistance, which could be described as an international Point Four Program. Experts in the various fields of agriculture, including the marketing and processing of agricultural products, are recruited from many different countries and are sent out on specific projects to countries that have requested FAO's assistance in improving their agriculture.

Among the activities of FAO other than technical assistance, I will mention only the one which explains my presence here. FAO has a small staff of commodity experts who have the job of keeping under continuous review the economic situation in their respective fields, that is, the situation with respect to production, consumption, international trade, stocks on hand, and prices. These commodity analysts are all located at the headquarters of FAO in Rome, Italy, with the single exception of our Fats and Oils Unit, which is temporarily in Washington for special reasons. The commodity work in FAO includes among other things the publication of short articles on the various products in the FAO Monthly Bulletin of Agricultural Economics and Statistics. We also issue fairly detailed commodity reports and bulletins, usually published once a year for each commodity or commodity group.

My topic here today is U. S. surpluses of oils and fats in world markets. I will consider, first, what the U. S. surpluses of fats and oils are, including "surpluses" in the broad sense of "export surpluses"; second, what export markets U. S. fats and oils have entered and on what terms; third, which countries and areas compete with the United States for world markets; and fourth, what the outlook for the next few years seems to be.

THERE are many ways of defining a surplus, but the simplest way for the purpose of this talk is to say that a surplus is the quantity of a commodity that cannot be sold at some given price. In the case of many U. S. agricultural commodities this given price is the support price to farmers. In fats and oils, as you all doubtless already know, the price-support programs have resulted in the accumulation of government stocks of cottonseed oil and of flaxseed and linseed oil as well as of tung oil and a little olive oil. These, strictly speaking, are the fats-and-oils surpluses. The word "surplus" however is also often used more loosely than this. For example, the expression "export surplus" is frequently used and means simply the difference between domestic production (plus imports, if any) and domestic consumption. A synonym is "exportable supplies." In this wider sense of the word the United States has large surpluses of lard, inedible tallow and greases, soybeans and soybean oil, and fish oils as well as the items which are in surplus in the strict sense.

How large are U. S. exportable supplies of fats and oils? and how large is the surplus strictly speaking? Let us look at the record. Exports of fats and oils in 1954 reached a new peak of about 3.8 billion pounds, including the oil equivalent of soybeans, flaxseed, and peanuts. This was an exceptionally large export, about 50% larger than the previous record established the preceding year. It included about 1.2 billion pounds, in terms of oil, of cottonseed oil, flaxseed, linseed oil, peanuts, and peanut oil that were sold from government stocks to exporters at prices considerably below the domestic market levels. There was a deliberate policy to move the large government inventories that had been acquired in supporting prices of cottonseed, flaxseed, and peanuts. These 1.2 billion pounds represented an export of surpluses in the strict sense of the word.

Since the war large quantities of exported fats and oils have been financed from funds appropriated by Congress for foreign aid and relief. Such exports have been declining in recent years however and were small in 1954. Ordinary commercial exports, made without any form of governmental assistance, comprised the great bulk of the 2.6 billion pounds that did not come from government stocks. Over 40% of these exports were accounted for by inedible tallow and greases, and most of the rest by lard, soybeans, soybean oil, and fish oils.

The high total of exports in 1954 (3.8 billion pounds) cannot be regarded as normal since it included large quantities drawn from stocks. What is likely to be the average U. S. export surplus in the next few years? The record of the last four years will give some clues to the answer. Production of fats and oils in the United States has shown a decided upward trend, rising to 12.9 billion pounds in 1954. Imports have been stable at about 1.0 billion pounds. The disappearance of fats and oils into domestic trade channels has increased moderately but steadily to 10.7 billion pounds in 1954. The net result has been a widening of the gap between production plus imports, on the one hand, and domestic disappearance on the other. This gap, which we may consider as the U. S. exportable supply, increased from 2.7 billion pounds in 1951 to 3.2 billion pounds in 1954.

If we assume normal weather conditions, a moderate increase in fats and oils production seems likely in the next two years, particularly because soybeans and flaxseed are relatively profitable crops and there are acreage restrictions on the two competing crops, corn and wheat. Also production of meat animals is likely to remain large, and this means plenty of lard, tallow, and greases. In fact, hog production probably will rise, with a resulting increase in lard and greases. Consumption of fats and oils in the United States also will probably continue to increase moderately in coming years, with expanding demand from a rising population partly offset by further inroads of synthetic detergents and resins into the traditional market for oils and fats in soap and paints. These projections lead to the conclusion that exportable supplies of oils and fats from the United States in the next few years are likely to remain at 3.0 billion pounds or more per year. This means that the U. S. fats and oils industries, as a whole, will be dependent on export outlets for nearly one-fourth of their marketings.

What will be the major items in the total of 3.0 billion pounds or more? Exports of inedible tallow and greases are likely to remain near the present level of 1.2 billion pounds annually, which is equal to about 40% of production. Exportable supplies of flaxseed and linseed oil may well average 10 million bushels or more, in terms of flaxseed (200 million pounds or more, in terms of linseed oil). This estimate is based on the belief that the acreage of flaxseed will remain at approximately the present level and that use of linseed oil in the United States will not change materially. An exportable surplus of 10 million bushels of flaxseed would represent nearly 25% of the crop. Exportable supplies of edible oils and fats other than butter (but including soybeans in terms of oil) probably will total 1.7 to 1.8 billion pounds in the next year or two. This would be equal to approximately 20% of total production. Roughly one-third of these exportable supplies would be in the form of lard, and the rest chiefly in the form of soybeans, cottonseed oil, and soybean oil.

LET us now turn our attention to the world markets for fats and oils and see how supplies from the United States fit into them.

World imports of fats, oils, and oilseeds in 1954 totalled about 14 billion pounds in terms of oil. This was the highest level reached since the war, and it was also above prewar. It was achieved without benefit of any abnormal demand such as developed in 1950 and 1951, when the Korean conflict led to fears of a general outbreak of war. There were some unusual factors however. There were large sales of vegetable oils from U. S. and Argentine government stocks at relatively low prices; business confidence was unusually strong in West-

[1] Presented at the annual meeting, American Oil Chemists' Society, New Orleans, La., April 18, 1955.

ern Europe; and Russia was a substantial importer of linseed oil and butter. Some decline from the 1954 level of world imports is likely in 1955. The U. S. and Argentine governments have not been pressing export sales so vigorously as a year ago since their inventories have now been substantially reduced. Also it is probable that part of the exceptionally large world imports of linseed and cottonseed oils in 1954 represented a movement into traders' stocks rather than into consumption and that import demand for these oils will be weaker this year while traders dispose of their stocks.

Nevertheless, on the assumption that economic activity in Western Europe and other importing areas will remain high, a large volume of world imports of fats and oils is likely to be maintained in the next few years.

Europe has long been the outstanding buyer of fats and oils in world markets. With a dense population, a high degree of industrialization, and a climate that is better suited for production of grains, root crops, and grass than for oilseeds, Western Europe regularly takes over 60% of total world imports. Southern and Eastern Europe also import substantial quantities so that the total for Europe is approximately 70% of the world total. The world's second largest importing region for fats and oils is North and Central America, which account for nearly 15% of the world total. The United States itself takes half of this and Canada, Mexico, and Cuba most of the rest. Asia is the third largest importing region. Its importance has been increasing, and in 1954 it took over 10% of total world imports. Japan accounts for about half of the total Asian imports. Imports into South America, Africa, and Oceania are relatively small.

Europe is the principal market for fats and oils exported from the United States as well as from other parts of the world. In 1954 Europe took over 60% of U. S. exports to all destinations. Nearly half of this—more than a billion pounds in terms of oil—came from government stocks. Most of the rest moved on a strictly commercial basis and consisted largely of tallow and greases, lard, soybeans, soybean oil, and fish oils.

The second largest export outlet for U. S. fats and oils is provided by the neighboring countries, Canada and the countries bordering the Caribbean Sea. Exports to these countries in 1954 amounted to about 25% of the total to all countries and were made almost entirely on a commercial basis. Lard, tallow, and greases have a large place in these exports; Cuba is the leading importer of U. S. lard.

Japan has recently become a major market for U. S. fats and oils and in 1954 took about 10% of the total to all countries. It was by far the leading importer of soybeans.

The remaining 5% of U. S. exports are widely scattered over the world. Inedible tallow and grease bulk large in this trade and went to more than 60 countries in 1954. Significant quantities were taken by such seemingly unlikely markets as Ecuador, Egypt, South Africa, the Philippine Republic, and Thailand.

These, then, in broad outline, are the export markets for U. S. fats, oils, and oilseeds. Let us now see which countries and areas are competitors of the United States in world markets.

THE 3.8 billion pounds of fats and oils exported from the United States in 1954 made up over 25% of total world exports. Other Temperate-Zone countries supplied another 20% or more, including linseed oil from Argentina, butter and tallow from New Zealand and Australia, and soybeans and peanut oil from China. In addition, there was a considerable trade among European countries in butter, lard, and rapeseed oil. All of these items compete directly with U. S. exports, except for butter, which is normally exported by the United States only in relatively negligible quantities. The world's whale fisheries contribute over 5% to the world export total of oils and fats; whale oil is used mainly in Europe, where it is hydrogenated for use in margarine and competes with U. S. edible oils hydrogenated for the same purpose.

Tropical and semi-tropical areas provided about 45% of world exports in 1954. The principal items were 3.3 billion pounds of lauric-acid oils (coconut and palm kernel oils, copra and palm kernels in terms of oil), 1.3 billion pounds of palm oil and 1.1 billion pounds of peanut oil and peanuts in terms of oil. The leading suppliers of copra and coconut oil are the Philippines, Indonesia, and Ceylon. The principal exporters of palm oil are British West Africa, Indonesia, and the Belgian Congo; and French and British West Africa are the world's principal peanut and peanut oil exporters. The peanut oil, of course, competes directly with U. S. edible oils. Coconut oil and palm oil also compete strongly since most of the world export supplies go to Western Europe and are used there mainly in food products. Lower grades of palm oil compete with inedible tallow for use as a soap fat.

As might be expected in view of such a long list of exporting countries, so widely scattered over the world, it is not possible to generalize about trends in world exportable supplies.

In several exporting countries population growth and economic development are likely to increase domestic demand for fats and oils to such an extent that exports will decline. In India this development has already gone far, and Australia and Brazil are examples of other countries where the process is under way. Programs for economic development are likely to have an especially pronounced effect on fat consumption in countries where incomes are low because people in such countries will spend a large part of any additional income on food. Where there is a program of rapid industrialization, the effect on fats and oils exports is likely to be intensified as the movement of workers from rural to urban areas both increases the commercial demand for food fats and oils and for soap and tends to reduce agricultural production of oilseeds as well as collections from uncultivated plants.

In some countries it may well turn out however that programs specifically aimed at increasing agricultural production will cause a substantial increase in oilseed production and exportable supplies. There are many areas well adapted to oilseed culture which could be brought into fuller production if one or another key problem could be solved. For example, in French West Africa it is hoped that the introduction of machinery, particularly for preparing the soil for seeding, will enable farmers both to increase peanut acreage and to adopt good crop rotation practices which would prevent further deterioration of the soils, which already has turned many formerly productive areas into desert. In other countries extension of the railroads or highway systems into new areas would make it profitable to raise crops not now grown because of the difficulty of getting them to market. In many areas, particularly in the tropics, agricultural research is non-existent or has barely begun. Long strides doubtless will be made in such matters as the development of new and improved varieties of plants, new means of combating pests and diseases, and improved crop rotations and methods for managing soils.

In the absence of any factors pointing overwhelmingly towards either an increase or decrease in world exports, it is a rather striking fact that total exports of fats, oils and oilseeds from countries other than the United States have not shown any noticeable trend since 1950 but have fluctuated within the range of 9.9 to 10.3 billion pounds, except for one low year. Also the outlook for the near future in individual areas, on the basis of fragmentary information, is for increases in some areas but declines in others. Hence it seems reasonable to conclude that total exportable supplies from areas other than the United States will not show any major change in the next year or two and may be between 10.0 and 10.5 billion pounds annually.

WE can now put the pieces of the picture together. We have seen that the quantities exported commercially from the United States in 1954, without any government help, plus a relatively small quantity financed with funds for Foreign Economic Aid, totalled about 2.6 billion pounds. This total was composed of more than a billion pounds of tallow and greases, over half a billion pounds of soybean oil and soybeans in terms of oil, half a billion pounds of lard, and smaller quantities of cottonseed and fish oils and some miscellaneous items. In the coming year or two commercially exportable supplies are likely to increase. Domestic prices of both flaxseed and linseed oil have declined considerably since 1954, reflecting lower price supports for flaxseed, and are approaching parity with prices in international markets which have risen materially above the depressed levels of mid-1954. If flaxseed and linseed oils become exportable on a commercial basis, another 0.2 billion pounds annually in terms of oil would be added to the 2.6 billion pounds of all fats, oils, and oilseeds exported commercially from the United States under 1954 conditions. Some upward adjustment probably should also be made for edible fats and oils. One reason is that lard production will be higher in the next two years than in 1954, which was a low year in the hog production cycle. With more lard produced the price will be lower and exports almost certainly larger. Another reason is that price supports have been lowered for cottonseed and soybeans. As a result, soybean and cottonseed oils as well as soybeans are likely to be priced lower than in 1954 in the domestic market and hence to be more competitive commercially in international markets.

In the next year or two therefore commercial exports of fats and oilseeds from the United States are likely to be

larger than the 2.6 billion pounds (oil equivalent) exported in 1954 and may approach 3.0 billion pounds. However, if we accept our earlier estimate that annual exportable supplies from the United States will total 3.0 billion pounds or more, there remains an indefinite quantity—anything from a small amount up to a maximum, possibly as high as 0.5 billion pounds—of surplus production that will enter government stocks and, depending on government policies, will be either held in store or exported at prices below the level in the domestic market. This surplus will mainly take the form of cottonseed oil or soybeans or both.

The estimated exportable supplies of 3.0 billion pounds or more from the United States, added to 10.0 to 10.5 billion pounds from other countries, make a world total of 13.0 to 13.5 billion pounds annually during the next year or two. This compares with actual exports of about 14 billion pounds in 1954. The prospective decline in exportable supplies from the 1954 level is a reflection of the fact that the heavy stocks of linseed and cottonseed oils drawn upon in 1954 have been greatly reduced. An offsetting increase in world production is not foreseen. The smaller world supplies of linseed and linseed oil have already resulted in higher prices for these commodities in international markets. In the case of cottonseed oil heavy exports from the United States were continuing in early 1955, and international prices for cottonseed and competing oils, such as soybean and peanut oils, were relatively low. With some reduction from the 1954 and early 1955 level likely in exportable supplies of this type of oils, prices in international markets in the next year or two probably will average moderately higher than in early 1955.

Now, to sum up. U. S. surpluses of fats and oils, in the loose sense of exportable supplies, will remain large in the next few years, probably equal to 20 to 25% of production. Surpluses in the strict sense of the word also are likely to persist, particularly in edible oils, but they will be more manageable than in the recent past. That is, the quantities will be smaller, and the difference between the domestic and international market prices will be narrower as a result of reduced support prices and perhaps some increase in international market prices. Prices of U. S. fats and oils that have not been supported (whether directly, as in the case of tung oil, or indirectly through price supports for the oilseeds) are likely to remain within the range of the past year or two. Domestic prices of linseed, cottonseed, and soybean oils however probably will average moderately lower than in 1954, reflecting the reduced support levels for the oilseeds.

I will close with a note of warning. The rather optimistic conclusions just expressed are based on the assumption that world economic activity, and particularly conditions in Western Europe, will remain at a high level. Demand for fats and oils, as for most other raw materials, is sensitive to fluctuations in business activity. Any important decline from the present degree of world prosperity would be felt in world fats and oils markets. World import demand would fall off, international market prices would decline, and exports and prices of U. S. fats, oils, and oilseeds would be adversely affected.

[Received June 24, 1955]

In October 1920

F. B. Porter, Society president, writes in the Chemists' Section of The Cotton Oil Press that the first need of the Society is acquaintance. He suggests two or three divisional geographical meetings during the Christmas holidays.

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"Centrifugal Separation of Soap Stock" is the title of a paper by J. H. Shrader, Coconut Products Corporation.

❖

Herbert S. Bailey becomes an active member of the Society, having been an honorary member since August 12, 1910.

❖

G. R. Dunning joins the staff at Fort Worth Laboratories, Fort Worth, Tex.

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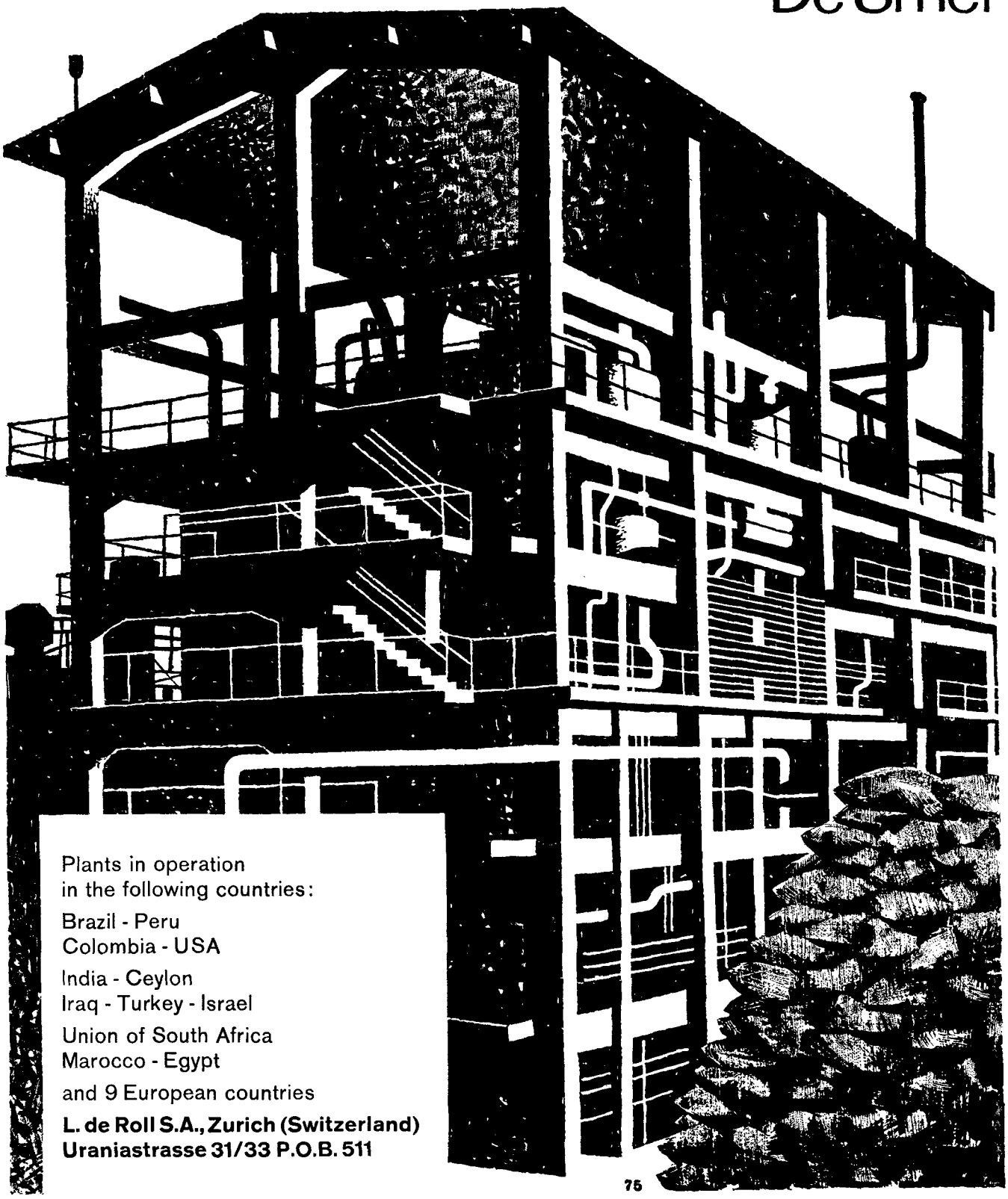

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Appointments

THE DICALITE DIVISION, Great Lakes Carbon Corporation, Los Angeles, Calif., has named Joseph E. Moran as assistant general manager of the division.

❖

FRANCIS X. KOBE is now employed as technical director and chief chemist at Rockwood Chocolate Company, Brooklyn, N. Y.

❖

Ross Brian has joined the CENTRAL SOYA COMPANY, Fort Wayne, Ind., as senior chemical engineer in the technical department.

❖

Calvin H. Mohr has been appointed assistant to the president at D. R. SPERRY AND COMPANY, Batavia, Ill., where he will coordinate engineering, research, and development of new equipment in the filter press division.

❖

KOPPERS COMPANY INC., Pittsburgh, Pa., announces the election of Paul W. Bachman as vice president and director of research and development.

❖

Sidney Katz has been promoted to senior chemist at the ARMOUR RESEARCH FOUNDATION of the Illinois Institute of Technology, Chicago.

Meetings

The first international symposium on "Physics in the Food Industry," sponsored jointly by Southwest Research Institute and the Institute of Food Technologists, will be held at the Plaza hotel, San Antonio, Tex., on March 15–16, 1956.

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The program for the annual meeting of the National Lubricating Grease Institute, to be held October 31-November 2, 1955, at the Edgewater Beach hotel, Chicago, Ill., includes a paper on "Antioxidants for Greases," by S. Fred Calhoun, chemist, Rock Island arsenal laboratory, Ordnance Corps.

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The South Central regional meeting of the National Association of Corrosion Engineers will be held October 18-21, 1955, at the Shamrock-Hilton hotel, Houston, Tex.

Problem Corner

Question March 29, 1955.

As a chemical engineer I will shortly assume the responsibility for a factory producing cottonseed oil. The oil is extracted by expellers, and the factory also has a complete refiner installation for winter oil.

Anxious to extend my knowledge of cottonseed oil, I will be very much obliged if you will recommend special books on the subject and tell me the publisher and the cost of each. Any information about periodical reviews on oil will be appreciated.

KAFR EL ZAYAT, EGYPT

Answer

We believe that the best information covering practical advice relating to the production of vegetable oils and fats is contained in the lectures on Production and Processing of Edible Fats, which were presented at the 1949 Short Course of the American Oil Chemists' Society at the University of Illinois. You may obtain a copy of these lectures by sending $3.12 to the office of the Society.

No doubt you will wish to obtain the Official Methods of the Society. Methods (with binder and Revisions to date) are $10.50.

If you need official samples of bleaching and filtering earths for use in conducting your laboratory control tests, you may also order these by writing to the Society.

J. P. HARRIS

Question April 21, 1955.

We are running a large vegetable oil plant and are in need of nordihydroguaiaretic acid (N.D.G.A.) antioxidant. Please let us have the name and address of the manufacturers so that we may arrange to import the material.

TEHERAN, IRAN

Answer

We are pleased to advise that nordihydroguaiaretic acid (N.G.D.A.) antioxidant is manufactured by the William J. Stange Company, 342 North Western avenue, Chicago, Ill. We are taking the liberty of asking them to contact you direct with quotations and samples of their product.

J. P. HARRIS

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