

Fats & Oils News



John P. Cherry

Cherry to head ERRC

AOCS member John P. Cherry has been appointed director of the U.S. Department of Agriculture's Eastern Regional Research Center (ERRC) in Wyndmoor, Pennsylvania, a suburb of Philadelphia.

H. L. Rothbart, director of the North Atlantic Area, in announcing this appointment, spoke of Dr. Cherry's expertise, drive and commitment to excellence in research and management.

Dr. Cherry had served as ERRC associate director since October 1982 and before that was at USDA's Southern Regional Research Center in New Orleans. At the SRRC, he was research leader and acting laboratory chief of the Oilseed and Food Laboratory. Earlier, he had held postdoctoral research associateships—one with the National Research Council and the other at Texas A&M University. He also had served as assistant professor in the Department of Food Science at the University of Georgia Experiment Station.

Working extensively with peanut and cottonseed, Dr. Cherry has studied the physicochemical properties of proteins, enzymes, pigments and lecithins; biochemical genetics and chemotaxonomy; microbiology and biochemistry of host-pathogen (particularly plant/fungal) relationships; genetic and environmental factors affecting seed composition quality; cell membrane biochemistry; and physicochemical principles of food processing, functionality and nutrition.

He has authored or coauthored over 110 publications, including 24 book chapters, made over 80 presentations at scientific meetings and edited three books on protein chemistry, deterioration, functionality and nutrition. He is an active member of the Institute of Food Technologists, the Agricultural and Food Chemistry Division of the American Chemical Society, the American Association of Cereal Chemists, the Association of Official Analytical Chemists and the American Peanut Research and Education Association.

Dr. Cherry received his B.S. in biology with a minor in geology from Furman University (Greenville, South Carolina), an M.S. from West Virginia University, and a Ph.D. from the University of Arizona, the last two in genetics with minors in agricultural biochemistry.

Holman returns to lab

Former AOCS president Ralph Holman has returned to the laboratories of the Hormel Institute after com-

pleting his second five-year term as executive director of the research facility in Austin, Minnesota.

Harald Schmid of the institute staff has been named acting executive director.

Holman, editor of *JAOCS*' sister publication *Lipids*, said he prefers to do research for now and let others handle administrative chores. He was the third director of the institute, succeeding H. O. Halvorson and Walter O. Lundberg.

The Hormel Institute is an internationally known lipid research facility of the University of Minnesota.

Mielke tells NSPA:

Profits fuel palm oil boom

Palm oil's share of the fats and oils market will grow sizeably during the 1980s, *Oil World* editor Siegfried Mielke told those attending the National Soybean Processors Association annual meeting in July.

Mielke, who publishes the German fats and oils weekly newsletter, predicted palm oil will capture 13.7% of the vegetable oil market by 1990, compared to 8.1% in 1980. Soybean oil's share, meanwhile, he said, will be slightly over 21% in 1990, the same as it was in 1985 but below the record 22.6% in 1980.

"The meteoric rise of the oil palm industry in Southeast Asia has been due mainly to its high profitability," Mielke said, adding that despite increasing competition from palm oil, "world demand for soybean oil is likely to show a much better increase in the next five years" than it has in the past five.

Predicting relatively low prices for fats and oils between 1985 and 1990, Mielke said this, coupled with better income growth and a stable increase in population, will generate an increase in per capita consumption of fats and oils by 1.4 kilos, or more than 10%, in the next five years. Total disappearance of 16 fats and oils, he said, will rise by 13 million metric tons (MT), or 20%, to 78.4 million MT during the five years. "The rate of increase will be above that of the past five years (when it was 17%) but below the 26% registered in the five years ending in 1980."

Mielke explained that soybean oil accounted for the largest share of the increase in world demand for fats

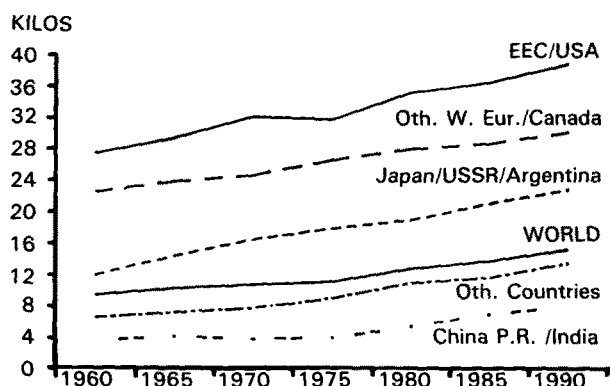


Fig. 1. Per capita consumption of 16 selected fats and oils (in kilos). Source: *Oil World*, July 5, 1985, p. 200.

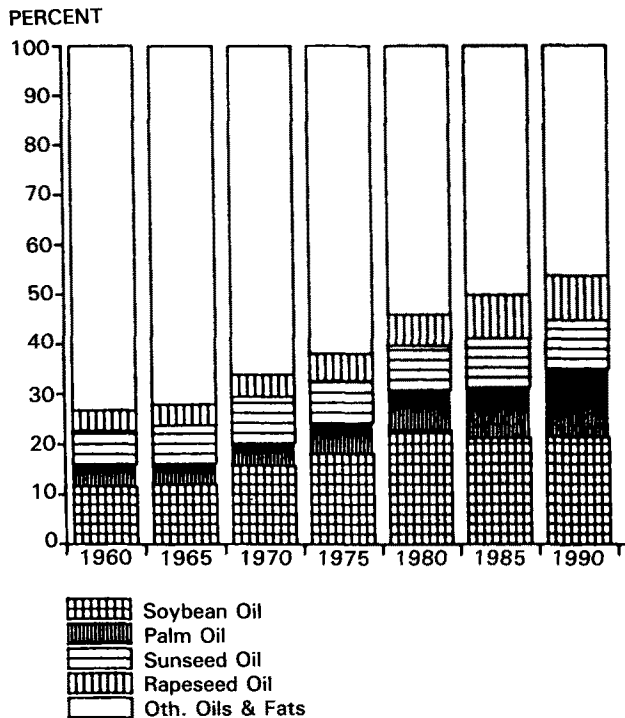


Fig. 2. Share of the world fats and oils market (%). Source: *Oil World*, July 5, 1985, p. 201.

and oils during the second half of the 1960s and throughout the 1970s, but this has changed during the 1980s. "Interestingly it was at first rapeseed oil which took over the lead, not palm oil. But palm oil will get the lion's share of the increase in world disappearance of all oils and fats in the next five years, followed only at a considerable distance by the other three major vegetable oils," Mielke said, referring to soybean, sunflowerseed and rapeseed oils.

Mielke also predicted world exports of all oils and fats will rise sharply by 6.5 million MT, or 32%, during the last five years of the decade. "I expect about half of this growth to be on account of palm oil," he said, explaining that palm oil's share of total world fats and oils exports already rose from 21.7% in 1980 to an estimated 26.3% in 1985 and is likely to rise to over 32% by 1990. "During the same 10-year period, the share of soybean oil is likely to decline from 19% to 17%," he said.

Speaking on "The Prospects of World Oil Demand and Its Coverage Between Now and 1990," Mielke said he based his predictions on the assumptions that there would be no major political upheaval or war and that climatic conditions would be normal.

African Oil Palm unit forms

The African Oil Palm Development Association (AFOPDA) has been established to encourage palm oil production and exports in Africa. Members of the association, based in Abidjan, Ivory Coast, are Angola, Benin, Cameroon, Ghana, Guinea, Ivory Coast, Liberia, Nigeria, Sierra Leone, Togo and Zaire. For more information about AFOPDA, contact J.A.C. Davis, Assistant Director—General and Regional Representative for Africa, FAO Regional Office for Africa, P.O. Box 1628, Accra, Ghana, Telex 2139 Ghana.

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Refineries: Fewer, larger

Refining capacity in the U.S. edible fats and oils industry has risen since 1975 while the number of refineries has dropped dramatically, according to a USDA survey released in May. The survey, conducted in cooperation with the Institute of Shortening and Edible Oils Inc., focussed on the 1982/83 marketing year and was conducted in 1983/84.

According to agricultural economist Diane K. Willimack, the survey confirmed the edible fats and oils refining industry has become more concentrated since a previous survey completed in 1975. Responses showed 58 plants operated by 29 companies, compared to 97 refineries operated by 49 companies in 1975. However, Willimack explained, respondents in 1975 represented 100% of the industry while the 58 plants in the latest survey represented only 88% of the total U.S. refined vegetable oil produced during the 1982/83 marketing year, based on Bureau of the Census statistics.

Respondents indicated they produced a total of 11.4 billion pounds of refined fats and oils during 1982/83 through alkali, steam and miscella processing. Of this, 10.9 billion pounds were vegetable oil. Optimum practical refining capacity reported was 14.9 billion pounds. "Thus, if the survey is indicative of actual capacity, potential refining capacity may be as much as 16.9 billion pounds," Willimack wrote, adding, "This represents about a 17% increase from the 14.5 billion pounds of optimum practical refining capacity reported in 1975, but only 8% above the total capacity after expansion planned at that time." Based on the data, Willimack concluded that the U.S. refining industry operated at over 76% of optimum practical capacity in 1982/83 compared with 71% reported in 1973/74.

In the mail survey, U.S. refiners were asked to provide data for October 1982 through September 1983 on refining facilities, output and capacities of intermediate processes and refinery products, and packed and bulk shipments. Information also was collected on capacity under construction, shipping destinations of processed edible fats and oils, types of oils processed, energy sources used to power facilities, and production schedules.

Geographically, the 58 processors responding were in 21 states. Over half were concentrated in Illinois (10 plants), California (9 plants), Texas (8 plants) and Tennessee (4 plants). In addition, New Jersey, Georgia, Ohio and Iowa each had three plants.

Soybean oil accounted for nearly 75% of the total U.S. refined output of fats and oils reported. Corn oil was second, at over 7%, and cottonseed oil third, at 6.4%. Other vegetable oils, accounting for 6.7% of the total, included palm, palm kernel, coconut, peanut and rapeseed.

Of the 58 plants, 53 refined, 45 bleached, 37 hydrogenated and 50 deodorized edible fats and oils. Over three-fourths of those which refined also bleached and deodorized; nearly two-thirds bleached, hydrogenated and deodorized.

The most common method for refining edible fats and oils was the alkali method, used in 47 plants and accounting for over 95%, or 14.2 billion pounds, of the total reported capacity. Five steam refineries accounted for 0.5 billion pounds, or 3%, of the reported capacity,

and four miscella refineries accounted for 0.3 billion pounds, or about 2%. Those alkali-refining edible vegetable oils manufactured such products as salad and cooking oils, baking and frying fats (shortenings), and margarine oil for making margarine. Other survey participants included miscella refiners of cottonseed oil and steam refiners of lard, edible tallow and tropical vegetable oils. However, figures for animal fats were not complete as no attempt was made to survey all renderers.

Willimack noted that concentration has increased among alkali refineries. In the latest survey, the 14 largest alkali refineries ranged from 350 to 1,100 million pounds capacity and held nearly 60% of the total U.S. reported alkali refined capacity. In the 1975 survey, the 14 largest plants ranged from 350 to 750 million pounds capacity and held 41% of the total. In the latest survey, the 47 alkali refineries had bleaching and deodorizing capacity of 13.2 and 12.8 billion pounds, respectively. They also produced almost 9.9 billion pounds of edible finished products.

Only half of the respondents had packing facilities at the refining plant, while almost all shipped products in bulk. The reported amount of packed and bulk shipments of edible fats and oils was nearly 13 billion pounds. Three-quarters of this was shipped in bulk to other plants for product manufacture and packaging. One-quarter of the total U.S. reported refined output of edible fats and oils was packed in containers before shipping. Solids at room temperature made up over half of the amount packed and shipped.

Liquid shortening was most commonly packed in one-gallon containers. Although this size was popular for other liquid oils, nearly twice as much of these oils was packed in containers holding less than a quart. Over 55% of the solid pack was shipped in 50- to 60-pound containers. Three-pound containers, meanwhile, accounted for almost one-third of the solid pack.

More than 40% of the edible fats and oils shipped in bulk had been refined, bleached, hydrogenated and deodorized. One-third of the total had been refined, bleached and deodorized. The bulk shipments were split in half between solids and liquids. Among the inedible or industrial fats and oils, almost 60% consisted of vegetable oil foots or soapstocks, while nearly one-quarter received additional processing beyond refining.

Meanwhile, half of the reported edible fats and oils was shipped to shortening, margarine, mayonnaise and salad dressing manufacturers. In the East and Southeast, mayonnaise and salad dressing manufacturers and bakeries received the largest quantity. Refineries in the West shipped the largest proportion to potato chip and snack food manufacturers. In the Midwest, refineries shipped approximately 65% of their output to shortening, margarine, mayonnaise and salad dressing manufacturers.

Nearly 27% of the total was shipped to other outlets, including consumer-food manufacturers, confectionery use, restaurants, food service and institutional distributors, retail grocers and distributors, industrial and inedible uses, government, and feed manufacturers.

Only six plants reported capacity expansion of any kind at the time of the survey. Three plants were expanding processing or production capacity to allow additional capacity for dewaxing, deodorizing, bleaching

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TABLE I

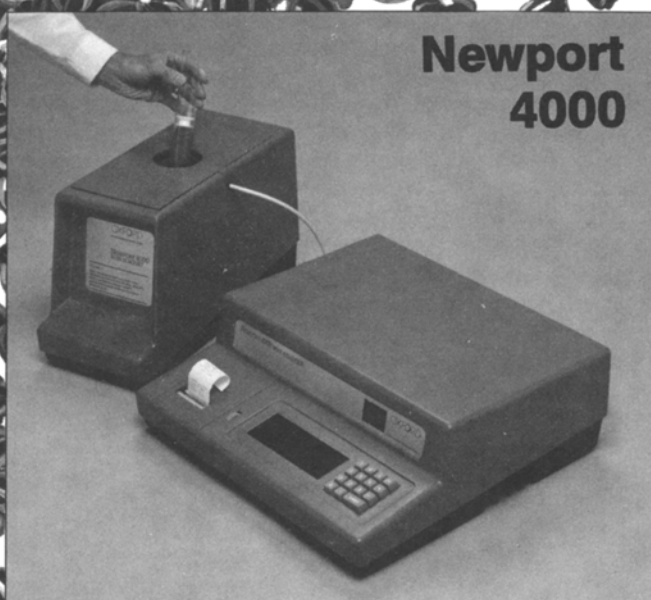
Total Reported Refined Output of Fats and Oils by Type of Oil^{a,b}

Type of oil	Region 1		Region 2		Region 3		Region 4		Region 5		U.S.	
	Reported output	% of total	Reported output	% of total	Reported output	% of total	Reported output	% of total	Reported output	% of total	Reported output	% of total
	Mil. lbs		Mil. lbs		Mil. lbs		Mil. lbs		Mil. lbs		Mil. lbs	
Soybean	2,264.1	78.3	3,802.8	77.1	586.9	50.1	1,279.5	94.8	580.1	55.3	8,513.4	74.7
Cottonseed	137.3	4.7	79.6	1.6	319.8	27.3	25.0	1.9	162.7	15.5	724.4	6.4
Sunflower	50.1	1.7	12.0	0.2	0.4	0.0	23.0	1.7	5.9	0.6	91.4	0.8
Corn oil	21.4	0.7	751.9	15.2	33.2	2.8	0.0	0.0	21.3	2.0	827.9	7.3
Safflower	0.0	0.0	0.0	0.0	0.7	0.1	0.0	0.0	23.8	2.3	24.5	0.2
Linseed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other vegetable oils	334.5	11.6	98.9	2.0	80.0	6.8	5.3	0.4	239.0	22.8	757.7	6.7
All vegetable oils	2,807.4	97.1	4,745.2	96.2	1,021.0	87.1	1,332.8	98.7	1,032.8	98.4	10,939.3	96.0
Animal fats	84.1	2.9	186.1	3.8	150.9	12.9	17.0	1.3	17.0	1.6	455.1	4.0
All fats and oils	2,891.5	100.0	4,931.3	100.0	1,171.9	100.0	1,349.8	100.0	1,049.9	100.0	11,394.4	100.0

^aSurvey data for 1982/83 marketing year, USDA *Oil Crops: Outlook and Situation Report*, May 1985.

^bSee p. 1298, "Guide to Regions (Tables I and II)," for listing of states in each region.

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TABLE II
Edible Fats and Oils Shipped to Various Outlets^a

Outlets	Distribution by type of outlet					U.S.
	Region 1	Region 2	Region 3	Region 4	Region 5	
	Percent					
Shortening manufacturers	1.6	25.7	7.5	23.2	3.4	16.2
Margarine manufacturers	14.2	17.0	6.3	20.0	7.7	14.6
Mayonnaise and salad dressing manufacturers	17.8	20.1	7.6	34.9	16.7	19.3
Bakeries	15.2	8.7	10.2	5.9	14.5	10.5
Potato chip and snack food manufacturers	4.6	9.0	13.3	9.3	18.3	9.5
Filled or synthetic milk products (mellorine, syn. milk, cream, etc.)	2.7	2.6	0.2	1.5	11.7	3.1
Other	43.8	16.9	54.8	5.2	27.7	26.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

^aSurvey data for 1982/83 marketing year, USDA *Oil Crops: Outlook and Situation Report*, May 1985.

and production of salad and cooking oils. The other three plants were expanding packing capacity for edible fats and oils.

Asked about factors limiting their attainment of optimum practical capacity in processing and packing, respondents ranked "market for finished products" as the chief factor. Other factors cited were hydrogenation and other processing capacities, crude oil availability, downtime due to delays in getting parts and making repairs, freight rates, availability of transportation and costs of labor and energy.

Willimack's article summarizing results of the survey is included in USDA's *Oil Crops: Outlook and Situation Report*, May 1985. Copies may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. To order, call 202-783-3238.

Guide to Regions (Tables I and II)

Region 1: New York, New Jersey, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida (15 plants)

Region 2: Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio (16 plants)

Region 3: Louisiana, Arkansas, Oklahoma, Texas, New Mexico (10 plants)

Region 4: Iowa, Missouri, Kansas, Nebraska (6 plants)

Region 5: Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado, California, Nevada, Arizona, Washington, Oregon, Idaho (11 plants)

Fish oil effects to be studied

A three-day conference held in June in Washington on the health effects of fish oils attracted approximately 150 health researchers from the U.S. and abroad. The conference was sponsored by the Nutrition Coordinating Committee of the National Institutes of Health, National Marine Fisheries Service and the National Fisheries Institute.

The conference objective was to develop a research agenda for determining the health effects of consuming polyunsaturated fatty acids from marine fish. While some participants cautioned against misleading consumers about the health effects of fish oils until more research is completed, others cited findings indicating a role for fish oils in disease prevention and in health maintenance programs. Scientists reviewed data indicating the risk of coronary health disease, atherosclerosis, arthritis, asthma, auto-immune diseases and cancer may be reduced and, in some instances, reversed by including fish or fish oil in the diet.

A working session on lipoproteins and atherosclerosis, for instance, recommended consumption of fish twice a week. Scott M. Grundy, director of the Center for Human Nutrition at the University of Texas Health

Science Center and chairman of the working session, pointed out that fish is a good source of protein and is low in saturated fats compared to red meat. Alexander Leaf of Harvard University Medical School, however, warned that important questions need to be answered before general recommendations can be made on the role of fish oils in human nutrition, especially concerning reduction of atherosclerotic disease.

Some studies presented at the conference demonstrated that a component of fish oil, omega-3 fatty acids, seems to be more effective in reducing cholesterol than consumption of vegetable oil and may aid in preventing atherosclerosis and chronic inflammatory diseases. Other studies showed evidence that omega-3 acids, when used as a diet supplement, inhibit the growth of tumors in patients with breast cancer.

Scientists said the next step needed is a research program to define the role of omega-3 fatty acids as a dietary constituent consumed in fish and as a therapeutic agent in the form of fish oil.

According to the July 1, 1985, issue of *Food Chemical News*, the National Fisheries Institute (NFI) is expected to file a petition this fall to allow the use of fish oil as a food supplement.

Meanwhile, NFI has reported per capita consumption of fishery products in the U.S. reached a record 13.6

pounds of edible meat per person in 1984. The total included 8.3 pounds of fresh and frozen products, 5 pounds of canned and 0.3 pounds of cured. U.S. exports of edible fishery products were down 27.8 million pounds from 1983, to total 574.1 million pounds, according to NFI. Imports, however, reached a new record, up 67.5 million pounds to total 2.5 billion pounds in 1984.

A report summarizing seafood statistics, *Fisheries of the United States, 1983*, is available at no charge from the National Marine Fisheries Service, Fisheries Statistics Program, 2001 Wisconsin Ave., NW, Washington, DC 20235, telephone 202-634-7366.

NSPA elects Reed

National Soybean Processors Association (NSPA) members attending NSPA's annual meeting in Hilton Head, South Carolina in July elected John G. Reed Jr., international vice president of Archer Daniels Midland Co., to be NSPA chairman. G. Lockwood Marine, group vice president for Central Soya Co., was elected vice-chairman. Other officers elected were Ronald L. Anderson, senior vice president and general manager of the World Processing Division of Continental Grain Co., secretary, and Stanley V. Eichten, executive vice president and chief operating officer of Honeymead Products Co., treasurer. Donald H. Leavenworth, group vice president of Cargill Inc., moved into the position of immediate past chairman. Continuing as president and chief staff officer of NSPA is Sheldon J. Hauck.

The theme of the annual meeting was "The Soybean Complex Through 1990: Positioning for Future Growth—Market Oriented Trade Policies, Research and Development, World Supply and Demand Trends."

Central Soya okays bid

Shamrock Capital's offer to acquire Central Soya Co. Inc. was officially approved by Central Soya's board of directors July 19. Central Soya shareholders had agreed to the transaction in a special meeting in June.

Meanwhile, Central Soya officials announced plans to sell all of its branded food companies and to concentrate on its agricultural businesses. The Fort Wayne, Indiana based company said it will sell Centre Brands, Fred's Frozen Foods, J.H. Filbert and Zatarain's. Centre Brands in Riverside, California, markets frozen prepared Mexican and barbecue meats, while Fred's Frozen Foods Inc. in Fort Wayne processes and markets frozen convenience foods. J.H. Filbert in Baltimore, Maryland, produces and markets margarine, mayonnaise and salad dressings. Zatarain's in New Orleans, Louisiana, produces breadings, seasonings and condiments for Creole cooking.

Donald P. Eckrich, appointed president of Central Soya in January, was slated to become chairman and chief executive officer Aug. 31 upon the retirement of Douglas Fleming. Stanley Gold, president and chief executive officer of Shamrock, was then to become president also of Central Soya.

News briefs

Louise O'Sullivan has been named president of Groen Division, Dover Corporation. O'Sullivan succeeds L. E. Burns, who has been promoted to group president of a newly formed Dover subsidiary, Dover Industries Inc., of which Groen is a division.



Louise O'Sullivan



Kiah Warden



Tod Jester

Kiah Warden has been appointed vice president of sales for Bunge Edible Oil Corporation.

Tod Jester has been appointed director of engineering for the Process Equipment Group of Groen Division/Dover Corporation. Jester previously had served as director of engineering in Groen's Food Service Group.

Rodney A. Stewart, formerly at Land O'Lakes in Hudson, Iowa, now is plant manager for processed spreads operations at Land O'Lakes, Kent, Ohio.

Paul Fedec has been named director of research and Yaw John Owusu-Ansah senior research scientist at the POS Pilot Plant, Saskatoon, Saskatchewan, Canada.

Joseph G. O'Grady has been appointed president of the American Society for Testing and Materials (ASTM). O'Grady joined the ASTM staff as executive vice-president in January 1984.

Aceites y Proteinas "El Calvario" S.A., Tehuacan, Puebla, Mexico, has contracted with The French Oil Mill Machinery Co. to modernize and expand the Mexican firm's solvent extraction plant. Scheduled for completion in late 1985, the project will increase soybean processing capacity at the facility to 500 tons per day. In addition, a modified desolventizer/toaster is expected to improve energy consumption at the facility.

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Albert O. Braun has been appointed executive director of planning and administration, Signal Research Center, the research arm of The Signal Companies.

G. Allan West has been appointed president of Packaging Service Industries, Minneapolis, Minnesota, one of several Bemis Co. packaging machinery operations.

Palmco Inc. is installing a hard butter production process at its facility in Portland, Oregon. Construction began this summer, with full production expected by January 1986. Palmco, a supplier of a broad range of coconut, palm kernel and palm oil products, anticipates use of its hard butter products in non-dairy products, candy coatings, candy centers, cookie coatings and other confectionery applications.

Wenger Manufacturing is constructing a 12,000 square-foot addition to its research and pilot plant at the company's facility in Sabetha, Kansas. The addition includes a new and expanded extrusion research laboratory for working on process techniques and methodology. Wenger's pilot plant features twin screw and single screw cooking extruders and forming extruders capable of handling 200 to 20,000 pounds per hour, as well as batch and continuous mixers, sizing equipment, dryers and toasting ovens. Wenger began manufacturing cereal grain and food processing equipment 50 years ago, pioneering the use of cooking extruders for foodstuffs and vegetable proteins.

The National Sunflower Association has published a new promotional packet on sunflower oil, which it bills as "fresh, light, affordable." In it, the NSA outlines the fatty acid composition of sunflower oil, its processing and refining, consumer interest in nutrition, sunflower production in the U.S., grades and standards for the oil, and product utilization. For copies, send requests to Director, Consumer Affairs, National Sunflower Association, 4023 N. State St., Bismarck, North Dakota 58501 (telephone 701-224-3019).

Alfa-Laval has purchased total ownership of Chemap, a biotechnology equipment company in which it had shared a 50% joint venture ownership with AB Cardo. At the same time, Alfa-Laval sold to Cardo its 50% interest in AC Biotechnics, a process technology and anaerobic wastewater treatment company which also had been part of the joint venture enterprise.

The Du Pont Company is sponsoring an association for scientists using chromatography in biological research, the Bioresearch Separations Forum. Forum members share knowledge through a database of important applications such as protein mapping established and maintained by the forum. Members also receive a quarterly newsletter. Membership is free to professionals in bioresearch and biotechnology. For more information, contact Bioresearch Separations Forum, Du Pont Company, Barley Mill Plaza, Bldg. 24/2310, Wilmington, DE 19898.

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