annual meeting report: trends of processing, consumption around the world

During the 76th AOCS annual meeting held during May, the symposium on "Trends in Edible Oil Processing and Consumption in Various Parts of the World" included 10 papers on various geographical areas. The following report by JAOCS' *Barbara Fitch Haumann is based on those presentations.*

An all-day session on trends in edible oil processing and consumption around the world held at the AOCS annual meeting focussed on the industry in Europe, Central America, Canada, Asia and the People's Republic of China.

supply and demand

Exploring the dynamics behind supply and demand in the oils and fats industry, Kurt Berger of the Palm Oil Research Institute of Malaysia (PORIM) said tradition plays an important role in the type and quantity of fat demanded.

"Man is very slow to change habits, particularly with food," Berger said. He pointed to West Germany and Austria, for example, where traditional animal husbandry has resulted in consumption based on solid fats. Other areas, such as southern Europe and other hot climates, consume more liquid oils. "For example, olive oil isn't just a food in Italy but it is a religion," he said, adding, "What your grandmother served up is what you want, on the whole."

The invention of margarine, he said, was successful because margarine behaved like butter while showing better keeping qualities. In the United Kingdom, margarine consumption has shown solid growth since 1880 while demand for butter, always a popular item, dropped during World War II and never has recovered. In the United States, margarine did not catch on until World War II. While U.S. consumption has leveled off recently, margarine outsells butter.

Berger said recent USDA data shows butter and lard usage has declined substantially in the U.S. while liquid oil consumption has climbed. "There is a clear indication of a substantial break with tradition," Berger said.

In India, the product comparable to butter is ghee, obtained by boiling the water out of butter and allowing the butter oil to crystallize into a granular product. In 1930, vanaspati, a mixture of hydrogenated vegetable oils that behaved in the same way, was discovered. "Vanaspati is to margarine what margarine is to butter," Berger said, explaining that vanaspati production has increased nearly one million metric tons (MT) annually in India, with similar products being developed in other countries.

The size of demand, Berger said, is dominated by population and growth in prosperity. "Population growth has forced India into becoming the largest importer of oils and fats within a few years," he explained, predicting India will have a deficit of up to 7.0 million MT of fats and oils by the year 2000 unless domestic production picks up substantially.

In contrast, he said, China has restrained its population growth, increased its oilseed production and kept supply and demand in balance, although at a rather low per capita level.

"World Bank statistics over a period of years have shown that there is an average relationship between per capita income and consumption," he added. For instance, South Korea has shown remarkable economic growth with a pattern of increasing consumption between 1965 and 1980 corresponding to rising income. To help meet the demand, South Korea greatly increased its palm oil imports. Meanwhile, Russia, Pakistan and India also increased palm oil imports. "This leads to a chicken or egg question," Berger noted. "Which came first, the abundance or the demand?"

He said the dynamics of supply are perhaps more straightforward. Palm oil, palm kernel oil and soy oil growth have been ahead of other oils, which have shown static or diminishing growth. Rapeseed, meanwhile, has shown average growth. "Supply is going to continue to grow during the next two decades at least," Berger predicted.

The "less cheerful side of supply," he said, has included the drought in Africa which has adversely affected oilseed production, particularly peanuts. "Exports have slumped to zero in Senegal," he noted.

Meanwhile, for a number of reasons, whale oil production "is close to zero now," while fish oil usage has jumped from one half million MT to about 1 million MT, Berger said. "Fish oil is low in cost, good if refined properly and has excellent properties," he said.

Berger also noted changes in processing, and cited the rapid development of the Malaysian refining and

processing industry. "In 1974 exports were about 800,000 MT of crude palm oil, while in 1984 exports were more than 3 million MT of processed oil, mostly in the form of refined oil, olein and stearin, with only 2% of this quantity exported as crude oil," he said. The trend to export processed products also is seen in Africa which, in 1958, exported 75% of its peanuts in nut form, but now exports 15% in nut form, with the rest as oil or meal.

Future potential, he said, could lie in currently untapped resources. "At the top of the list is undoubtedly the oil from rice bran. If it were all recovered for human food, 2.8 million MT would be available from the present world harvest," he said. Next in potential are the edible oils in unharvested forest seeds, particularly in India and Brazil. These, such as sal, mahua, neem, karanja and kusun, have potential as confectionery fats.

Noting that prospects are favorable, Berger said that if the world remains at peace, growth in demand will continue, with adequate supplies available.

europe

Roger Leysen of the American Soybean Association's Belgian office discussed soy oil processing and use in the European Economic Community. Noting that the EEC is an important market for American soybeans, Leysen estimated EEC soybean crushing capacity at 13 million MT, with U.S. soybean exports to the EEC fluctuating around 10 million MT annually. In 1984, Leysen said, the EEC consumed more than 15 million MT of soy meal, including imports of meal mainly from Brazil. Capable of generating 2.4 million MT of soy oil a year, the EEC had an apparent consumption (production plus import-export of crude oil) of only 1.4 million MT in 1983. Exports of soy oil from the EEC to other countries are steadily increasing, as is consumption, he added.

The EEC market for vegetable oils is extremely competitive. "European manufacturers of vegetable oils, margarines and shortenings have learned to become very flexible, and they adapt their production to the prevailing market conditions," Leysen said, adding, "Politically, the EEC pushes to self-sufficiency for fats, oils and proteins, heavily supporting rapeseed and sunflowerseed production." The rapeseed crop increased from 2 million MT in 1981/82 to an expected 3 million MT in 1984/85, while sunflower production increased from 500,000 MT to more than 1.1 million MT. "The shift to domestic seed supplies will continue to be significant in the future, depending unfortunately on political decisions about the level of support prices," he said. "This, together with Brazilian soybean meal import pressures, has pushed the EEC crushers to adapt their plants for multiseed processing."

While soy oil still leads the EEC oil market, Leysen said sunflowerseed oil now leads in France and rapeseed leads in the United Kingdom. Leysen pointed out that rapeseed oil and soy oil consumption in France are hampered by regulations prohibiting the sale as a frying oil of any vegetable oil which contains more than 2% linolenic acid. Soy oil is used as a salad oil and also for frying. In addition, a hydrogenated winterized soy oil is now available as a liquid oil. Leysen noted that EEC crushers, refiners and food manufacturers are convinced that higher quality demands are needed for all raw materials and food ingredients. "We therefore see in the EEC the development of several 'new' processes providing such better products," Leysen said, citing those of superdegumming, the Alcon process and acid degumming.

Leysen said superdegumming was developed as a pretreatment of oils and fats for physical refining. With this process, an oil with less than 30 ppm phosphorus can be obtained. In the Alcon process, soybean flakes are subjected to a moisture-heat treatment to inactivate the phospholipase, resulting in a pronounced decrease in phosphatide content in the crude degummed soy oil. Acid degumming, meanwhile, was developed in the Netherlands by the Central Institute for Food Research. It consists of degumming using formic acid.

"Most of these techniques were developed because of energy saving efforts or because of new, more stringent waste water regulations. These techniques are also to be seen as a pretreatment for physical refining. Physical refining of soy oil, however, is not yet accepted by everyone because fears exist that not all qualities of crude degummed soy oil can be pro-

cessed with a good quality refined soy oil as a result," Leysen said.

Leysen predicted a further shift from animal to vegetable oils and fats in the EEC margarine industry. Already, he said, blends of butter with vegetable oils, mostly soy oil, have appeared.

In addition, he said, there will be more work done to make analytical methods more sophisticated and sensitive, and more emphasis on seed selection, plant breeding and cloning. In the area of processing, Leysen said, the commercial application of supercritical gas extraction appears unlikely because of large capital costs. However, several membrane filtration processes have been patented for removing phosphatides from crude oils, and work is under way on enzymatical esterification to produce a margarine more closely resembling butter.

central america

Reviewing the edible oil industry in Central America, Carlos Farner of O.S.T.I., Neumunz Inc., Guatemala, noted decreasing domestic production and increasing imports of oilseeds.

While Central America was nearly self-sufficient in edible oil supplies until 1975, currently it relies on imports for 70% of its needs, mainly to Nicaragua, Guatemala and El Salvador. Honduras, the only country that has remained self-sufficient, has increased palm oil production from 25,000 MT in 1980 to an expected 50,000 MT this year, providing an excess for export. Costa Rica, meanwhile, has maintained its palm oil production at approximately 40,000 MT. Panama, he noted, always has imported all fats and oils for edible usage. Guatemala, meanwhile, has seen cottonseed production drop from 245,000 MT in 1980 to 67,000 MT in 1983. The trend to diminishing domestic oilseed production has continued throughout most of Central America during the past 10 to 20 years, he said.

"It is obvious that Central America needs large investments in oilseed development," Farner said. A limiting factor, however, is Latin America's large public external debt.

Meanwhile, Central America's per capita consumption of edible oils has grown. Currently, per capita consumption is estimated at 17 pounds annually and is projected to grow to 22.4 pounds per person by the year 2000. "There definitely will be an increase in per capita consumption," he predicted, noting that Central America's current edible oil needs total approximately 385 million pounds.

"Unless something completely different happens soon, I don't feel Central America will ever produce more than 350 to 400 million pounds of edible fats a year," Farner said, adding that the population there is expected to reach 40 million people by the year 2000, requiring approximately 880 million pounds of edible fats and oils, while production probably will increase only by 100 million pounds. "We expect to continue importing a lot for our needs," he said, explaining that Central America probably will be able to obtain enough fats and oils to meet its needs until the year 2000. "In the year 2000, we will reach a point where there is no solution—unless things change," Farner warned.

Farner said the fats and oils industry changed 10 years ago. "New oils were being imported. This meant processors had to learn technology to handle the different oils," he said. Work has included a continuous process to handle coconut oil and efforts to produce oleochemicals locally. Refineries are modern, he added.

Suggesting that Central America needs assistance to develop its edible oil industry, Farner said, "It needs help with no strings attached." This might include help in obtaining new products and subsequent investment to help produce these domestically, he said.

canada

Two speakers covered the edible oil industry in Canada. John Ward of Nabisco Brands Ltd. of Canada discussed influences on edible oil supply and demand, while Mark Pickard of CSP Foods Lt., co-author with Robert Wiggins and Don Loewen, focussed on consumption and processing.

Ward noted that, originally, Canadian crushers handled primarily U.S. soybeans. However, in the 1950s and 1960s, rapeseed planting was encouraged, leading to the development of Canada's canola crop. Currently, canola is the primary oilseed, with some soybeans and sunflowers grown as well. In southern Ontario, soybeans average 30 bushels per acre yields, with 18% to 20% oil content. "Heat units are the restrictions to growing soybeans here," Ward explained. In western Canada, oilseed cultivation is limited due to a short growing season of 100 frost free days. Near the United States-Canadian border, some areas are suitable for growing sunflower.

Currently, Ward said, canola is grown on 7 to 10 million acres a year, yielding 20 bushels an acre with 42% oil content.

One factor encouraging production has been the use of more powerful locomotives and larger train cars, with preferential freight rates provided. By 1970, rapeseed had been developed for use in margarine and foods. Four years later, good yielding varieties low in erucic acid were established. The next step was development of low glucosinolate varieties.

In the last several years, Ward said, domestic crush, export and seed uses have outstripped production. The reason was a large crop carryover. By June 1984, however, "We were really scraping the bottom," Ward said.

Pickard, meanwhile, explained that Canada has the highest per capita consumption of canola oil in the world. In 1960/61, 763,000 acres producing 252,000 MT of canola were planted; by 1984/85, that area had grown to 7,288,000 acres, yielding 3,205,900 MT of canola.

Crushing capacity, he said, now totals 4,120 MT a day at seven facilities. Of the oil consumed in Canada, 49.8% is canola oil and 31% is soy oil. Daily per capita consumption of rapeseed oil in Canada is 26 grams a day, compared to 20 grams per day in Eastern Europe, 16 grams per day in

Western Europe and 9 grams in Japan. This consumption is increasing, he said. Figures for 1983 showed 72% of the canola oil used domestically went into margarines or shortening and frying oil, while 28% was used in liquid salad oils.

Pickard said research conducted through the Canola Council of Canada has made acid degumming of canola oil possible to reduce phosphorus levels. The most common problem faced by processors, he said, is adequate color removal. Predicting that smaller plants will go out of business, Pickard said the future will see fewer but larger computer-controlled facilities.

asia

Lars Wiedermann of the American Soybean Association's Singapore office noted that Asia represents large populations with varied agricultural traditions and cultural eating habits. Because of this diversity, Wiedermann divided the area into several sections: South Asia, including Pakistan, India and Bangladesh; Southeast Asia, including Thailand, the Philippines, Malaysia, Singapore and Indonesia, and the Far East, under Japanese influence, including Japan, South Korea and Taiwan.

Traditionally, consumption of fats and oils has been low in these regions. "Fats and oils are a scarce commodity. They are available as indigenously grown and imported. These countries are lucky to hold per capita levels up, let alone increase the figures," he said.

south asia

India is the largest importer of fats and oils, importing two-thirds for its consumption. Pakistan also imports a significant amount for its use. However, Wiedermann pointed out, such third world countries do not have funds to purchase adequate supplies of fats and oils or food. "The population increases are skewed toward lower economic peoples," he said.

In India, the main crops are peanuts and high erucic rapeseed, with some production of cottonseed oil and coconut oils. India also imports soy and palm. "The rate of oilseed production in India has not kept up with population," Wiedermann said, adding that per capita consumption of fats and oils in India is 5.5 to 6 kilos a year. In Bangladesh, some rapeseed is grown domestically. Per capita fats and oils consumption there, however, is "desperate," Wiedermann said, putting it at slightly over 2 kilos a year. Pakistan, meanwhile, has an average per capita consumption rate for fats and oils of 8 to 9 kilos a year. Wiedermann added that in the urban areas, representing 25% of the population, per capita consumption is approximately 24.6 kilos a year while in the rural areas, it is nearer 4 kilos.

In South Asian countries, Wiedermann noted, vanaspati, or hydrogenated fat, is the form of fat consumed. This provides poor baking quality as it lacks functionality.

Processing includes 12 continuous stainless steel deodorizing facilities in India and one in Pakistan.

southeast asia

Wiedermann said oilseeds are physically refined in Southeast Asia. There also is a shift to alkali refining to improve oil quality and because of a decrease in soft oil usage.

Wiedermann, noting there are only 10 hydrogenation units in the region, said liquid oils are preferred throughout Southeast Asia. Also, coconut oil is preferred for flavor although some quantities are being replaced by palm olein.

In Thailand, fat consumption is 2.5 kilos a year per capita. Thailand imports soybean and palm oils and some coconut. Malaysia is the largest producer of palm oil products. There is margarine production, mostly for non-refrigerated products, and some shortening blends, although very little soy oil is used in these. Malaysia's per capita consumption is 15 kilos a year, he said.

Indonesia, meanwhile, produces 99% of its needs in palm and coconut oil. Per capita fats and oils consumption is 10 kilos a year. Foods include tempeh made from soybeans and peanuts consumed as vegetables. Wiedermann said Indonesia's palm oil industry is new and uses modern technology.

In the Philippines, the edible oil crushing industry is having severe difficulties, Wiedermann noted, explaining this is due to a lack of government support for coconut production. "When the economy improves, we will see more soybean extraction here," he predicted.

Focussing on the Malaysian palm oil processing industry, another speaker, Malcolm MacLellan of PORIM, noted that a total of 1,361,178 hectares was devoted to palm production in 1984. According to MacLellan, planted acreage increased 450.2% between 1960 and 1970 and 352.8% between 1970 and 1984. Meanwhile, oil production grew 369.6% between 1960 and 1970 and 760.7% between 1970 and 1984. In 1970, there were 46 mills handling palm. By 1985, this had grown to 221 mills, with an additional 45 mills expected to be commissioned during 1985. MacLellan estimated total installed capacity at 7,986 MT fresh fruit bunch per hour. Refineries, numbering five in 1973, now total 54 with capacity to handle 4.96 million MT annually.

MacLellan said Malaysia will continue to be a major exporter of palm oil, mostly processed oil. He also sees expanded production of fractionated products.

Processing techniques also are becoming more sophisticated, he said, noting increasing use of diaphragm filter presses and separation under pressure. Newer processing, he said, will mean an increase in the olein yield.

Another speaker, consultant Richard Purdy, presented an overview of the coconut industry in the Philippines. Co-author of the report was Norberto Coronel of San Pablo Manufacturing Corp.

Noting references to copra trading as early as 1521, Purdy said commercial planting began in 1642, and that by 1909, copra's share of total Philippine exports had reached 22%. Be-

tween 1917 and 1941, 90 to 99% of Philippine coconut oil exports and 50% of her copra went to the United States. World War I sparked processing advances. However, all milling activities stopped during World War II and it was not until the early 1960s that oil production reached pre-war levels, he said.

Prior to 1920, edible fats and oils in the Philippines consisted primarily of imported lard and peanut oil. In 1919, Purico was introduced as the country's first coconut oil-based shortening. Coconut oil-based margarine and cooking oil followed. After World War II, the fats and oils industry in the Philippines was multi-national in nature, with a large segment controlled by American, European and Japanese interests. Beginning in the early 1970s, steps were taken toward the complete "rationalization" of the industry. The Coconut Consumers Stabilization Fund was set up, placing a levy on domestic copra purchases to subsidize domestic purchases of cooking oil and laundry soap. In 1974, a presidential decree supported replacing old tall coconut trees with higher yielding short hybrids. Levy funds later were diverted to acquire what became the United Coconut Planters Bank. In 1979, a presidential letter directed the bank to use the fund to establish the United Coconut Oil Mills (UNICOM). UNICOM was to be a joint venture for coconut farmers and the coconut mills placed under its administration. At the end of 1984, Purdy said, UNICOM mills accounted for 47% of the Philippine milling capacity.

Purdy said a levy suspension in August 1982 hurt the industry's productivity programs but that in September 1984 a decree was issued to use 10% of export taxes on coconut oil products to continue the replanting program.

Today, the Philippine islands are the largest coconut producer. For the crop year ending 1983, the Philippines produced 2.25 million MT of copra, representing 48.6% of the world total of 4.6 million MT. Forty-two percent of the country's exports went to U.S. markets, 41% to European markets and the remainder to Russia, China, Japan, Australia and Canada.

While oil exports dropped by almost one-half in 1984, the aggregate value increased 10% because of higher prices, Purdy said. The U.S. was the biggest buyer, followed by Western Europe. Copra meal exports go almost exclusively to Western European feed compounders.

At the end of 1983, 3.2 million hectares were planted in coconut trees. In 1983, 2.15 million tons of nuts were produced; of this, 90% was converted to copra. Current planted area represents a 70% increase over that in 1970, resulting in a 65% increase in nuts produced.

Native varieties, Purdy said, take seven years to produce, then continue to produce sporadically until 10 to 15 years old before reaching maturity. The new hybrids of African origin bear fruit within four to five years. Purdy said the hybrid replanting program, which started in 1974, covered 37,000 hectares by 1984.

As of mid-1984, 48 oil mills were in operation, with total annual crushing capacity of 3.3 million tons of copra. Capacity is 60% utilized, he said. The largest mill is the Granex Plant at Illigan, Mindanao, formerly owned by Cargill, with 1,000 MT daily capacity. Six mills have capacities between 500 and 800 MT, and 16 between 200 and 450 MT.

In addition, there are 21 coconut oil refineries, ranging from 30 to 180 MT per day capacities for fully refined edible oil and 100 to 300 MT of cochin, or semi-refined, oil.

Purdy predicted the combined edible and cochin production capacity soon will double, with the start-up of farmer-owned Countryside Millers' three refineries, each producing 350 MT daily. The plants will be in San Pablo, Luzon and the Mindanao cities of Zamboanga and Illigan. All three will have physical refining capabilities.

Because of higher ambient temperature in the Philippines, edible coconut oil is a liquid. Shortening is compounded from liquid coconut oil and imported hydrogenated palm oil. The second major use for edible coconut

oil is in reconstituted milk products requiring the addition of corn oil. Laundry soap is another outlet for oil and refinery soapstock.

Purdy predicted coconut oil derived chemicals will provide future value added exports. UNICHEM, a farmer-owned enterprise using German technology, has been organized recently. Fatty chemical exports in 1984 totalled 55,000 MT, including fatty acids, alcohols and methyl esters shipped mostly to Japan.

Citing the 1985 presidential decree disbanding UNICOM, Purdy said the United Coconut Plants Bank has since initiated formation of nine trading companies funded by the Coconut Industry Investment Fund. "It has been suggested that each of the trading companies will be affiliated on a regional basis with the individual UNICOM mills, but would be able to themselves acquire and maintain operations associated with the coconut oil industry," Purdy said.

far east

The Far East produces only a few oilseeds, ASA's Wiedermann said, so it must import most of what it uses. Crushing facilities are modern, using high level technologies. Japan uses soybeans and rapeseed, while soy oil predominates in Taiwan. Facilities in the region are large, handling 500 to 2,000 MT per day. Taiwan currently is building extraction facilities. South Korea, meanwhile, imports soy, palm and tallow, with liquid oils consumed directly and palm and tallow used for frying.

Another oil used in various parts of Asia is rice bran oil. Currently, he said, rice bran oil deteriorates quite rapidly.

china

John Woerfel, who has traveled to China four times since 1982 as a consultant for the American Soybean Association, noted that soybeans are a major food crop in China, the world's third largest soybean producer. Soybeans are grown throughout China although most intensively in the northern provinces of Lianoning, Jilin and Heilong Jiang. Woerfel said Dalian, an industrial city and seaport on the Yellow Sea, is reported to be the principal soybean processing center.

Soybeans are consumed mostly as traditional foods such as sprouts, sauce, milk, curd and paste. Only about 20% of the crop is crushed for oil and meal. Other important oilseed crops include peanuts, rapeseed, sesame sunflower, cottonseed and linseed. Many of the extraction plants process several types of oil.

Noting that only one batch solvent extraction plant existed in China before 1954, Woerfel said experimentation began in 1954 on continuous rotary type extractors. Two years later, the first continuous solvent plant was constructed with a capacity of 40 tons a day. In 1958, a plant for direct extraction of cottonseed was imported and later modified for prepress. During the 1960s, extraction plants employing batch, rotary, continuous belt and loop type extractors were constructed.

Woerfel said most of the equipment has been designed and built in China as part of that country's effort to minimize dependence on other countries.

None of the facilities has soybean dryers. Instead, soybeans are spread on straw mats and dried in the sun. Transportation facilities are limited. Railroads are the primary transportation, while barges are common on canals and rivers. Soybeans are stored and transported in sacks.

Soybeans are processed without dehulling. Woerfel noted that Chinese soybeans reportedly have higher protein and lower oil content than U.S. soybeans and, even when not dehulled, yield a meal with 48 to 50% protein. Woerfel said soybeans are thoroughly cleaned for processing. Conditioning is done in four or five high stack cookers, and flaking rolls are conventional. "The unique feature of preparation is drying the flakes to 8% moisture content. This is done in steam heated tunnel dryers between the flaking and extraction," he said. Also, high oil content seeds generally are prepressed.

All solvent extraction facilities now have rotary extractors, with plant capacities varying from 100 to 480 tons a day. Refining facilities, he said, are quite rudimentary.

Two facilities Woerfel has visited have installed new refineries. One, entirely designed and constructed in Shanghai, features continuous degumming, refining and vacuum bleaching. Another plant in Beijing has imported a short mix system for 200 tons a day. That plant also features continuous degumming, vacuum bleaching and a continuous deodorizer with high temperature heating.

Another facility for hydrogenating vegetable oils and producing shortening and margarine was completed last October and is managed by the Ministry of Light Industries. "To my knowledge, this is the only plant currently hydrogenating vegetable oils," he said.

Woerfel said the Xian Institute of Oils and Fats plans to construct a complete oil processing pilot plant to do research with rapeseed, cottonseed, sunflowerseed, vegetable tallow and soybeans.

"There is keen interest in getting technology for flash desolventizing and manufacturing higher quality TSP (textured soy protein) as well as protein concentrates and isolates," Woerfel said, noting interest in expanding the use of soy protein in human food. Goals expressed by soybean industry spokesmen were to modernize their factories and to develop and expand production of new products, including high quality refined oil, margarine, shortening, hard butters, mayonnaise, improved quality meal, textured soy protein, soy concentrates and isolates.

Woerfel predicted that in the immediate future, existing extraction facilities will continue to be upgraded and new refineries will be added, as will additional margarine, shortening and soy protein facilities. "These will probably be modest in size, about 50 tons per day for margarine plants and 10 tons per day for edible protein," he said.

Woerfel also sees the potential for construction of a large extraction plant, or plants, at a seaport such as Dalian. "These could be supplied by rail with Chinese soybeans from the interior and by sea with imported soybeans," he said, suggesting that such a project could be undertaken as a joint venture, a popular idea with the Chinese.

Philadelphia local committee stuffs portfolios for registrants.

International participants included (from left) Ichiro Hara of Japan, Enzo Fedeli of Italy, Andre Prevot of France and Horst Baumann of Germany.

★ ★

1,800 attend Philadelphia meeting

Scale models are popular attractions in exhibit hall.

Personal contacts are significant value of professional meetings.

Approximately 1,800 persons attended the 76th annual meeting of the American Oil Chemists' Society held May 5-9, 1985, in Philadelphia, the largest AOCS annual meeting ever held.

There were several "firsts" at the meeting. Joyce Beare-Rogers of Canada became AOCS' first woman president, succeeding Nicholas Pelick of Supelco Inc. She also became the first non-resident of the United States to serve as AOCS president. The first annual fat people's fun run was held, drawing more than 80 entrants for a five-kilometer run along the Schuykill River. Approximately 700 persons attended the May 8 banquet, for the first time an optional social event.

More than 315 presentations were given during three and one-half days of technical sessions attended by approximately 1,250 technical registrants. Initial ratings from registrants' meeting evaluation questionnaires showed most persons rating the technical program "good" or "fair" as to content and presentation. Some registrants saw what they termed "excellent" slides, but others said they saw more "poor" slides than good ones. Many technical sessions were standing room only, including a session on "productivity management," a non-technical topic.

One disappointment was the cancellation of two plenary session speakers. Melvin Calvin, a recipient of the Nobel Prize in chemistry, notified organizers a week before the

meeting that he was recuperating from surgery and would be unable to attend. Substituting for Dr. Calvin was Dr. W.R. Sharp of DNA Plant Technology, who delivered a plenary lecture on "Improvement of Cultivated Plants by Genetic Engineering." Bengt Samuelsson of Karolinska Institute in Sweden, a Nobel Prize recipient for medicine, also was unable to attend to receive the 1985 Supelco AOCS Research Award. An air traffic controllers' strike in Sweden prevented Samuelsson from arriving.

During the annual business meeting, members formally approved changes in the articles of incorporation and by-laws revising membership on the executive committee. The new system calls for all five members to be elected officials of the society; under the previous system, the appointed director of publications also was a member. The title "director of publications" also was removed from the articles of incorporation and by-laws.

AOCS Treasurer Timothy L. Mounts reported the independent audit of AOCS' books for 1984 showed income of $1,207,089 and expenses of $1,125,235, leaving a net surplus of $81,854. After allocation of $30,000 to the society's building contingency fund, the society had $51,854 to add to its reserves.

Approximately 75 organizations filled 93 exhibit booth spaces for the largest exposition ever held at an AOCS meeting. Meeting evaluation questionnaires turned in immediately after the meeting indicated most registrants spent one to three hours viewing exhibits.

Approximately 170 persons registered for the spouses' program which included tours of Philadelphia's historic sites, the Franklin Mint and Longwood Gardens outside Philadelphia.

Two veteran AOCS volunteers stepped down at the meeting. Ed Hahn resigned as chairman of the Examination Board, the committee that evaluates independent analytical chemists seeking certification for analytical proficiency. Rick Benson of Cargill will be new chairman of the Examination Board. A.R. Baldwin, editor of the *Journal of the American Oil Chemists' Society* since 1948, resigned. Thomas H. Applewhite of Kraft Inc. was appointed editor by the Governing Board. In another change involving publications, Wolfgang Baumann attended his first annual meeting as coeditor of *Lipids*; Ralph Holman will continue as editor through 1985, then Baumann will become editor and Holman co-editor during 1986. Holman plans to retire from editor's duties after 1986. Baldwin will continue as chairman of the AOCS publications committee.

The AOCS Governing Board approved formation of a new geographical section, the South Central Section, which will be centered around Dallas and solicit membership from surrounding states eastward to the Atlantic Ocean as well as New Mexico and Colorado.

There were numerous complaints about delays in checking in at the Wyndham Franklin Plaza on May 4 and 5. The hotel hosted a reception in the ballroom lobby area before the May 8 banquet as a way of apologizing to AOCS registrants.

The Governing Board approved Cincinnati as site for the 1989 annual meeting; the 1986 meeting will be in Honolulu, the 1987 meeting will be in New Orleans and the 1988 meeting in Phoenix.

There was less activity in the Placement Center than in 1984, perhaps indicating an improved economy with fewer persons seeking jobs. Approximately three dozen job descriptions were posted.

An international luncheon on Sunday, May 4, explored the possibility of an international federation or consortium of fats and oils professional organizations to improve communication and to coordinate activities. At that meeting it was reported the French, German and Italian oil chemists' organizations recently had agreed to a systematic information exchange by those societies' chief elected officers. Representatives of fats and oils groups from Europe, Asia, North America and Latin America attended the luncheon in Philadelphia. Another meeting on the topic may be held in conjunction with the World Conference on Emerging Technologies in the Fats and Oils Industries during November in Cannes, France.

State of the Society ★

AOCS President Nicholas Pelick

(The following is the text of outgoing AOCS President Nicholas Pelick's address to the AOCS annual business meeting held Monday, May 5, 1985, in Philadelphia.)

The AOCS, in many ways, is the world's premier society in fats and oils, lipid chemistry and related substances such as soaps and detergent materials. We often refer to it as the "Oil Chemists," a highly disciplined international scientific organization.

In terms of membership (4,071), with revenue from annual dues of $110,000, the AOCS isn't as powerful a force as the American Chemical Society with its 130,000-plus members. But we are the world's best at what we do, for both the scientific and industrial community involved in fats and oils, and for the changing technologies in those fields.

The driving power behind our achievements has been the dedicated participation of you, our members, including those at local sections of AOCS—Northeast, North Central, Norcal and Southwest, and at the national level, the Governing Board and working staff of AOCS headquarters, Champaign.

However, I would be remiss if I didn't mention the cross-current I'm feeling coming from our top industries. I mean those industries that are pushing for a reduction in member activities. As an industrial leader, I disagree with this push. If AOCS is to reach full potential, we need increased participation of our members. It's up to us to see that the younger members of AOCS take up where we leave off. I've always felt that those who benefit from the resources of AOCS have an obligation to repay that debt. And I'm not

speaking of monetary contributions. You, as leaders, must continue to support AOCS. Volunteerism is men and women of business who think highly of their profession.

As president for one year, one has to set goals. And as past president, one should continue with these priorities until the goals are reached.

Many of you have heard from me regarding the AOCS foundation project. As you can imagine, this is by far my No. 1 priority. With your help, our goal of $385,000 will be met. Thanks for these corporate pledges:

Foundation Pledges

Kraft	$25,000
Best Foods	25,000
Central Soya	25,000
Anderson-Clayton	25,000
ADM	25,000
Cargill	25,000
Can. Inst. of Edible Oil Foods	18,000
Bunge	15,000
Staley	15,000
Nabisco Brands	6,000
Sherex	6,000
Witco	5,000
NE Section	2,250
P&G Food Prod. Division (Wharton)	2,000
Honeymead	2,000
Armour-Dial	1,500
NC Section	1,000

After the Dallas meeting, I mailed a letter to many of you asking for support. It was a very successful effort; we had responses from all continents and raised close to $5,000. Thanks to all of you for your help.

I also want to say something about the certified chemists program.

Over the years, AOCS has simply used its Smalley check sample program and the methodology of "the Book" to assist the Examination Board in determining when a chemist, in a specific lab, has shown the competence to do particular analyses. We list the names of those chemists and laboratories that have successfully completed the Smalley program in our *JAOCS*. And from that list, certain trade associations have selected them (by the association's own choice) to be trade association referees.

This worked for a long time, but after reports of some shoddy results, the trade associations recently raised a ruckus on the quality of work by AOCS referees. Well, in the first place, AOCS was never in the business to ride herd on referees or certified chemists. The program was really a means for individuals to use the Smalley check sample as a way of measuring their ability to work up results. Now the trade groups insist that AOCS not only certify referee chemists, but decertify if required, through monitoring and policing the system. The ultimate decertification, if approved, will probably be made by the AOCS Governing Board. As you can see, a lot of legal questions are being raised and solutions also are being worked out. I'm sure one main topic of conversation for this annual meeting will be this subject.

On fiscal matters, at present AOCS provides one dollar of services for every eight cents members pay in dues. The other 92 cents comes largely from monographs and methods, conferences and short courses, advertising revenues and investment income.

Many of us who have benefited from AOCS membership throughout our professional careers feel that it has done as much for us as our colleges and universities. Perhaps, like universities, AOCS should encourage affluent members to consider donations and living trusts.

A number of years ago, the Governing Board directed that AOCS have a reserve fund equal to the cost of one year's operation. Today, I'm pleased to say, our reserves represent 41% of our total assets. We have these reserve funds invested in CD's, money market funds, government bonds and stock funds. And, as in business, we too must protect our continuity.

We are continuing to strive to be worldwide leaders of expanding developments and technologies.

We recently completed a highly successful world conference that was held in Malaysia on palm, palm kernel and coconut oil processing.

In the fall, another world conference will be held in Cannes on emerging technologies in fats and oils. At this conference you will be hearing about biotechnology as another new way of telling an exciting story of chemistry and the changing times.

Biotechnology today is characterized by a mix of caution and optimism—caution not to expect too much too soon, and optimism that much will be accomplished.

This is an era of exciting new technology that could have a tremendous effect on many of our businesses and research programs. And yet, today, chemistry is losing out in the competition for the best young students. Our industry is stifled. We're afraid to say much because of overzealous media groups. All we hear about are toxic chemicals and dioxin, not how chemistry has raised our standard of living, added to our quality of life and increased our life span.

If there is to be a future for oil chemists, we must create a better image. We must make a strong commitment to our own profession, and we must always be sure that our positions are in the public interest.

The primary purpose of the AOCS is to provide a suitable forum in which our diversified membership can exchange scientific data and new ideas through meetings, educational functions and publications. We must continue to do the very best here. There is no doubt that oil chemists can help themselves with positive, well documented presentations about the true and highly significant role of their work.

As you have heard previously, many successful conferences and special projects in the past six years have given us financial strength, despite an unsteady economy. As a result, the AOCS has grown in national and international stature. We are, I believe, the authoritative, worldwide spokesman for fats and oils.

I'd like to give recognition to this year's Governing Board, Joyce Beare-Rogers, vice president; Tim Mounts, treasurer; Bob Hastert, secretary; members-at-large Gerry Maerker, Neil Widlak and Dave Erickson; past presidents, Tom Smouse, Karl Zilch, Edward Perkins and Frank Naughton, and ex officio members Bill Tallent, Dick Baldwin, Ed Hahn, Bill Link, R.G. Krishnamurthy, Tom Applewhite and Jim Ridlehuber.

Special thanks also to my wife of 32 years, Dolly.

And, finally, I will have the distinct privilege at this meeting of turning the reins of the Society over to our first woman president of AOCS—Dr. Joyce Beare-Rogers.

Fats & Oils News

Excellence

(The following is the text of incoming AOCS President Joyce Beare-Rogers' comments at the inaugural breakfast held May 8, 1985, during the annual meeting.)

New AOCS President Joyce L. Beare-Rogers

To become president of the American Oil Chemists' Society is for me a great honor and challenge. A quarter of a century ago, with knocking knees, I presented my first paper on lipids at a fall meeting of this Society. After that followed more papers, committee work and an interest in the international dimensions of our Society.

As a reminder that science knows no national boundaries, we have only to recall that the interests of nine chemists concerned with cottonseed oil grew to encompass allied professional people in approximately 80 countries. This is our present Oil Chemists' Society. It has established an excellent reputation, even among non members, through its monthly publications which are found in technical libraries around the world.

The publication of journals and monographs, the updating and dissemination of methods, the organization of meetings, short courses, workshops and world conferences, the operation of a check sample program, the approval of chemists and certification of laboratories and the provision of a framework for like-minded people to share and join forces in a profession are all challenges of a large scale. These are the accomplishments of the American Oil Chemists' Society. The competent staff at headquarters ensure that the many revolving wheels of the organization run smoothly in the desired direction.

The world conferences of the past decade have brought together hundreds of chemists who can rarely attend a meeting such as this in North America. Our organization has an international status that is a source of pride and a reminder that excellence cannot be compromised.

The educational thrust is bringing more short courses to provide opportunities for learning or updating a special field. It is hoped that a sequential curriculum may be developed in several areas.

Within the Society, members of academia, government and industry interact and gain mutual understanding. This is perhaps most easily accomplished at meetings of local sections, of which there currently are four, in addition to a protein section that does not have a geographical basis. For the first time, the Canadian members of the American Oil Chemists' Society, who are rather widely dispersed, will be meeting together on Oct. 1 and 2 of this year in Ottawa.

Currently, the fastest growing part of our membership resides beyond North America. The Society aims to serve well the national and international community of AOCS members with their broadly based interests.

It is no surprise that members are satisfied to retain the name of our Society. The AOCS binds us together and provides a well-known identity for contact with other organizations and professionals. As means are found for more exchanges with societies for fats and oils elsewhere in the world, our name proudly spells out the home of the AOCS.

To keep the Society strong, all committees need ideas and renewal. I urge younger members to become involved in the workings of our Society, to learn what will eventually be expected of them and to let their aspirations for the AOCS grow and be known.

We are embarking on a busy year in the history of the AOCS. A past president, who was a driving force of the Education Committee, stated that his presidency had been an education. I look forward to my education and to serving you to the best of my ability.

Thank you.

An invitation to Cannes

(The following message from Aldo Uzzan, general director of the Institut des Corps Gras, was presented to the AOCS during the plenary breakfast on Wednesday, May 8, 1985, at the AOCS annual meeting. It was presented by Andre Prevot, regional director for ITERG at its facilities in Pessac, France.)

Mr. chairman, ladies and gentlemen, dear colleagues,

On behalf of Mr. Roland Faugere, president of our Institut des Corps Gras–ITERG, and of Aldo Uzzan, its general director, I am very happy to extend this invitation to you to attend the AOCS world conference to be held next November in Cannes.

We at ITERG are very proud that our country, France, has been chosen as the site of this world conference, after those of the past years in The Netherlands, Switzerland and Malyasia, and we expect that this meeting will be a very successful one!

We have at least two reasons for being very confident about this success:

The first one is the theme: "Emerging Technologies in The Fats and Oils Industries" and their effects on quality, nutrition, consumer concerns and efficiency.

We all know that Dick Baldwin, general chairman of the conference, and Tim Mounts and Jean-Paul Helme, co-chairmen of the steering program committee, have worked hard during the last two years in order to develop a very complete and up to date technical program including:

–15 general sessions, with no less than 90 speakers.

–Daily poster and discussion sessions.

–An exhibition which will certainly be a key event of the conference.

Surely, this technical program will attract technicians, managers, scientists and industry leaders from all over the world!

The second reason is the site of the conference. The

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French Riviera and particularly the city of Cannes are famous for their beauty, climate, cultural and social atmosphere, and for their quality of life, without forgetting the proverbial hospitality of their people: Les Cannois.

Last but not least, Cannes has a very new Palais des Festivals et des Congres, in use since last year, which is very convenient, pleasant and perfectly situated in the heart of the city, in La Croisette.

Let me now add two last recommendations:

—One: Bring your wife with you. We'll have a very attractive social program and "accompanying persons program" including the visit to several famous museums and painting foundations (Picasso, Chagall, Maeght), of perfumes, manufacturers, pottery and ceramic factories, situated in lovely seaside and country sites. The weather is generally pleasant at the beginning of November on the Riviera, with wonderful sunsets on the Mediterranean Sea.

—Two: Don't miss the pre-congress tour in the Bordeaux area. I will have the pleasure of welcoming you to ITERG's lab, facilities and plants in Pessac, which according to many people who visited them deserve a detour! A second day will be devoted to a visit to a chateau with its vineyard and cellar.

This will be a unique occasion for you to taste our world famous Grand Cru de Bordeaux wines directly where they are produced.

We are all waiting for you!

Awards ★

Frank Khym, right, accepts 1985 AOCS Award of Merit from R.G. Krishnamurthy, selection committee chairman.

Ralph Potts Memorial Fellowship recipient Tim Golich (center) talks with Richard Reck, left, and Lincoln Metcalfe, both of Akzo Chemie America, award sponsors.

SDA President Ted Brenner, center, presented award for best 1984 surfactant and detergent paper to Vista Chemical's Michael Cox (left) and Ted Matson.

Dr. **Bengt Samuelsson** of the Karolinska Institute in Stockholm, Sweden, was selected as the 1985 Supelco AOCS Research Award winner. He was unable to attend the AOCS annual meeting in Philadelphia because of an air traffic controllers' strike in Sweden. Dr. Samuelsson shared the Nobel Prize in medicine in 1982 for work on prostaglandins.

The AOCS Award of Merit was presented to **Frank Khym**. Khym has served as a consultant since his retirement from Anderson Clayton several years ago. He was chairman for the 1974 AOCS meeting in Mexico City, the first AOCS meeting of its size held outside the United States or Canada. He served as AOCS national secretary in 1975 and has been active on numerous committees. He helped organize a fats and oils section of AOCS in Monterrey, Mexico.

Timothy Golich of the University of Wyoming received the Ralph H. Potts Memorial Fellowship Award. The $1,000 honorarium and plaque recognizes a graduate student for outstanding work in the chemistry of fats and oils and their derivatives. The award is sponsored by Akzo Chemie America.

Six students were presented 1985 AOCS Honored Student Awards at the meeting. They were: **Robert S. Chapkin**, University of California-Davis; **Evan S. Deneris**, University of California at Los Angeles; **Nagwa Z. Hassanen**, Texas A&M University; **Marc Linné**, Lehigh University; **Kwang L. Rho**, Kansas State University, and **Kurt L. Wiese**, University of Arkansas.

Michael F. Cox and **Ted Matson** of Vista Chemical Co. received the 1985 Soap and Detergent Association Award for the best paper published during the preceding year in the surfactants and detergents portion of *JAOCS*. Their paper, "Optimization of Nonionic Surfactants for Hard

1985 AOCS Honored Students were (from left) Marc Linne, Evan S. Deneris, Kwang L. Rho, Nagwa Z. Hassanen, Robert S. Chapkin and Kurt L. Wiese.

Smalley Program award recipients pose in Philadelphia with Smalley Chairman Jim Ridlehuber (right). Others are (from left) Jim Henderson, peanut aflatoxin certificate; Mike Valletta, first place in peanuts, fish and several other certificates; Lela Vines, Smalley Award winner for oilseed meal, first place in oilseed meal moisture, crude fiber, and other certificates; Ed Hahn, R.T. Doughtie Jr. Award winner for cottonseed; Ronnie Fox, first place in cottonseed oil for Fox Testing Labs, and other certificates; and Ridlehuber.

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Surface Cleaning," was published in the July 1984 *JAOCS*.

The 1985 ADM Award for best published papers relating to proteins and co-products went to **Ketan L. Mehta, C.D. Callihan** and **Roger A. Sunde.** Mehta, of Anderson Clayton Foods, and Callihan, of Louisiana State University, were recognized for the best paper relating to engineering and technology for their paper entitled "Production of Protein and Fatty Acids in the Anaerobic Fermentation of Molasses by *E. ruminantium*," published in the November *JAOCS*. Sunde was cited for the best paper relating to chemistry and nutrition for his paper, "The Biochemistry of Selenoproteins," which appeared in the December 1984 issue.

Recipients of the ADM Awards for best papers relating to protein and co-products were Roger A. Sunde (second from left) and Ketan L. Mehta (center). With the winners are (from left) *JAOCS* Editor A.R. Baldwin; Protein and Co-Products Section publication chairman Frank Sosulski and E.G. Campbell of Archer Daniels Midland, sponsor of the award.

Dr. E.W. Lusas received a surprise award from the Protein & Co-Products Section during its luncheon meeting at the Holiday Inn Center City. The award consisted of a meritorious service award plaque for his work as a founder and first president of the section.

Ed Lusas, right, received special award from Protein and Co-Products Section for helping found and guide the section through its early years; others are Robert Hron and David Sessa, section officers.

Potts Award winners return

All four recipients of the Ralph H. Potts Memorial Fellowship Award attended the 1985 AOCS annual meeting in Philadelphia.

The first recipient, Nikolas Sotirhos, was a student at Rutgers when he received the award in 1982. Now with KabiVitrum AB in Sweden, Sotirhos presented a paper on reverse phase HPLC.

Heasook Kim, the 1983 recipient, commuted to the meeting from Rutgers University.

The 1984 recipient, Thomas Ryan, is now with the Southwest Research Institute in San Antonio, and was in Philadelphia to present a paper on identifying chemical changes in vegetable oils during injection into a high-pressure, high-temperature environment of nitrogen. He was a student at Michigan State University when he received the award.

The 1985 recipient, Tim Golich of the University of Wyoming, presented a paper on use of surfactant-based vesicle for controlled release of compounds such as pharmaceuticals.

Governing Board meeting

The AOCS Governing Board focused on future AOCS meetings and other programs during its session at the society's 76th annual meeting.

The board heard reports that proposed topics for world conferences after 1989 including oleochemicals, fats and oils processing, biotechnology, and waste management in the fats and oils industry. The topic of liposomes is to be considered for a research conference.

The education committee presented a list of proposed short courses through 1990, with four to five short courses each year. Topics would include vegetable food protein, prostanoids, fatty acids, oxidation, soaps and detergents, processing, analytical techniques, phospholipids, new instrumental methods, oleochemicals, specialty fats, robotics, fats and health, biotechnology and others.

The board agreed to hold seven concurrent technical sessions during the 1986 annual meeting in Hawaii. For the past several years, the program at annual meetings has been limited to six concurrent sessions to minimize overlap of topics. Registration for the 1986 meeting in Honolulu will be held on a Wednesday, with technical sessions starting on Thursday morning. Using seven concurrent sessions will allow for a full technical program to conclude Saturday, rather than extending into Sunday morning.

In other action, the board voted to write a formal letter of thanks to Edward R. Hahn, who resigned as chairman of the Examination Board after 20 years in that post. Hahn will continue as an Examination Board member along with Robert Hastert and Richard Benson of Cargill, who was appointed chairman.

The Governing Board formally appointed Thomas H. Applewhite of Kraft as editor of the *Journal of the American Oil Chemists' Society*, succeeding A.R. Baldwin. In other personnel changes, long time mycotoxin committee chairman Leo Goldblatt has resigned and will be succeeded by Art Waltking, and Edward G. Perkins has been appointed technical correspondent for AOCS, replacing Bernard F. Szuhaj.

An ad hoc committee studying a possible change in name for the society was dismissed with thanks after submitting a report recommending that a name change not be considered at the present time.

The board considered a proposal to increase the publications headquarters staff, but postponed any final action pending preparation of a 10-year plan by headquarters staff. The plan is to be presented to the Executive Committee during its mid-summer meeting. Tentative approval was given to adding a second copy editor/proofreader to the staff.

The bleaching earth committee, whose sole function has been to certify annually the supply of bleaching earth owned by AOCS, was officially dissolved and the job of recertification delegated to the AOCS technical director.

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Protein, Co-Products Luncheon

Much study and research remains to be done before scientists will truly understand the interactions of dietary components on serum cholesterol and specifically the effects of dietary protein on serum cholesterol.

That was the message by David Kritchevsky to persons attending the AOCS Protein and Co-Products Section Luncheon in Philadelphia. Kritchevsky, associate director of the Wistar Institute in Philadelphia, is a noted researcher in this area. His topic was "Animal and Vegetable Protein in Experimental Atherosclerosis."

Kritchevsky noted that various studies during the years have produced what appear to be variable results, but that may be because earlier researchers were not specific enough in identifying dietary components, or because of differences in test animals.

Quoting the maxim "The tragedy of science is that a beautiful hypothesis can be killed by an ugly fact," Kritchevsky said researchers need to continue developing hypotheses to be tested, discarding those that prove wrong and working toward more understanding of diet and disease.

Also at the luncheon, results of the annual election of officers were announced with David Sessa of USDA to serve a second term as chairman; Mary Zabik of Michigan State University as vice-chairman; Nancy DiMarco re-elected secretary-treasurer, and Frank Sosulski, George Bookwalter and Lynn Jones as members-at-large.

Sessa presented Ed Lusas of Texas A&M University with a plaque representing the section's 1985 Meritorious Service Award for Lusas' role in helping found the section.

Hunter, White tops in Fun Run

Ed Hunter was first to cross finish line

First woman to cross the finish line was Pamela White

The First Annual Fat People's Fun Run or Walk held Monday evening, May 6, turned out to be a bigger success than organizers dreamed it could be. Ninety-two people signed up, 74 showed up at the starting line and 72 completed the five-kilometer course within 51 minutes of the start.

"It was a unique success not only because we got twice the participation that we had expected but also because the ones who participated were very elated with the experience. They acted like they had climbed their first mountain," Joseph Fioriti, co-director of the event, reported.

The popularity of the race caught Fioriti and co-director Daniel Schwartz by surprise. Ordering only 50 "Lipid Lovers" tee shirts for those taking part, they found their supplies depleted by Sunday evening. Schwartz and Fioriti then started handing out tee shirts promoting the 1986 AOCS annual meeting but still didn't have enough shirts for all signing up.

Winner of the race was Ed Hunter of Procter & Gamble Co., who turned 40 years old just two days before the event. Hunter, who crossed the line at 18:03, did not know until he reached the finish ribbon that he had won. His uncertainty had been caused by two runners from Rapid Results, the company officiating the race, who ran ahead to check out the course.

Greg Marsan of CEM Corp. came in second, at 19:41, while Larry Guariglia of CPC International was third, with a time of 20:06.

First woman to cross the finish line was Pamela White of Iowa State University, with a time of 23:57. She was the 23rd finisher over-all. Mary McPherson, who completed the race in 24:43, was the second woman to place and the 28th to finish. Lisa Lambert, 39th finisher, placed third in the woman's category, with a time of 27:58.

The first three men and three women to finish each received a trophy to mark their achievement. Also receiving recognition was Joy Campolongo, who crossed the finish line last at 50:18 and was given a coffee mug.

The five-kilometer course started behind the Philadelphia Museum of Art near the boathouse and went through Fairmont Park past Boathouse Row along the banks of the Schuykill River for 2.5 kilometers. Runners and walkers then were directed by Fioriti to double back along the same route.

The youngest participant in the fun run or walk was 8-month-old Ebony Hardin, daughter of AOCS member Marsha Hardin, a consulting chemist from University Park, Illinois. Ebony rode in a pack on her mother's back for the event.

Arlene Privett, who finished 62nd, and John Nadenicek of Nu-Chek Prep Inc., who finished 40th, were at the other end of the spectrum, at age 61. Schwartz, who finished 21st, is 60 years old.

"Everyone was saying, 'Let's do it again next year.' It was wonderful," Fioriti said.

Consequently, the Second Annual Fat People's Fun Run or Walk is being talked about for Hawaii in 1986. For those who missed out this year, there's another chance next year. Those who took part this year are already trying to figure out how they can get to Hawaii.

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Exhibit door prizes

Lynn Lander of Lever Brothers was winner of the Sony Watchman television set given as the grand prize at the exhibit accompanying the 1985 AOCS annual meeting in Philadelphia.

Winners of AOCS souvenir pen and pencil sets were: Edward A. Sedor, Sherex Chemical Co., and Gus Bailey, USDA Southern Regional Research Center.

AOCS souvenir pencil: Phyllis Sullivan, Harshaw/Filtrol.

AOCS souvenir cigaret lighter: B.F.J. Goodwin, Unilever; Marvin A. Tung, University of British Columbia; Joe Klein, Sun Co.; George Chenzos, Canada Packers; Bob LaBarge, Dow; Herman Brown, Finetex, and Kevin J. Krivacsy, Noxell Corp.

AOCS souvenir knife: C.K. Dartey, Nabisco Brands Inc.; L. Lander, Lever Brothers; E. Duane Bitner, U.S. Department of Agriculture; K.F. Wood, Hunt-Wesson Foods; G. Maerker, USDA Eastern Regional Research Center; B. Dean Shah, SIB Corp.; R.J. Hron, U.S. Department of Agriculture; Mohammed Arabi, World Central; T.A. Pelloso, Nabisco Brands; Thomas H. Applewhite, Kraft Inc.; Henry Rakoff, U.S. Department of Agriculture; Jim Ridlehuber, Plains Cooperative Oil Mill; Howard Robinson, Lever Brothers; G.S. Farmer, Anderson Clayton Foods; Ralph Holman, Hormel Institute; Robert Jensen, University of Connecticut; Richard Reck, Akzo Chemie America, and Ernst Goebel, Quimica Sumex.

AOCS 1986 meeting tee shirt: Jorge J. Castellanos, Hunt-Wesson Foods; Larry Arshoff, Allelix Inc.; Arturo C. Southam, SouthCo. Inc., B. Sreenivasan, Lever Brothers; Joyce A. Bailey, USDA Southern Regional Research Center; Ed Nungesser, U.S. Department of Agriculture; R. Astarita, Van Leer Chocolate; Robert R. Lowry, Oregon Meadowfoam Growers Association; A.P. Menasian, Humko Chemical; Joe Sampugan, University of Maryland; Aura Anghelescu, CPC International; Gerardo Feldhaus, Quimica Sumex; Robert Connor, Monsanto; Irv Schmolka, consultant; B.R. Johnson, Campbell Soup Co., and Frank Doca, Patco Products.

Registrants at the meeting placed their business cards in boxes at booths throughout the exhibit hall with winning names being drawn each day of the exhibit. Most winners picked up their awards during the meeting; prizes were being mailed to those who did not pick them up during the meeting.

Donors

Many firms provided financial support or donations for various portions of the AOCS annual meeting held during May in Philadelphia.

Among the donors for the speakers' support fund were:

- Anderson International Corporation
- BASF Wyandotte Corporation
- Best Foods Division, CPC International
- Buhler-Miag Inc.
- C&T Refinery
- Campbell Foods
- CasChem Inc.
- Finetex Inc.
- The Foxboro Company
- Hershey Foods Corporation
- Hoffman LaRoche Inc.
- Kraft Inc.
- Thomas J. Lipton Inc.
- Calsicat Div., Mallinckrodt Inc.
- Nabisco Brands Inc.
- Polyesther Corporation
- L.A. Salamon & Bro.
- Sherex Chemical Co. Inc.
- Wurster & Sanger Inc.

Firms providing other support for the meeting were:

- General Foods
- L.A. Salamon & Bro.
- Milton Roy Inc.
- Nu-Chek-Prep Inc.
- Perkin Elmer
- Süd-Chemie
- Supelco Inc.

Donors for the spouses' program included:

- Best Foods/CPC International
- General Foods
- Hershey Foods
- Hoffmann LaRoche Inc.
- Milton Roy
- Van Leer Chocolate

Contributors to the Honored Student Program fund for 1985 were:

- Akzo Chemie America
- Anderson Clayton Foods
- Atlas Refinery Inc.
- Best Foods North America
- Bowers-Siemon
- Cargill
- CasChem Inc.
- Colgate-Palmolive Company
- Eagr Development Group
- Fabrica de Jabon la Corona S.A.
- The French Oil Mill Machinery Co.
- Kraft Inc.
- Lehn and Fink Products Group
- Mettler Instrument Corp.
- Nabisco Brands Inc.
- Nu-Chek-Prep Inc.
- Howard Roth
- Shell Chemical Company
- Travenol Laboratories Inc.
- Union Camp Corp.
- U.S. Borax Research
- Van Dyk & Co. Inc.

Fats & Oils News

Short courses★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

More than 230 persons attended three AOCS educational courses held in White Haven, Pennsylvania, the week before the AOCS annual meeting.

There were 118 registrants for a short course on processing and quality control of fats and oils and 79 registrants for a short course on applications of analytical methodology in fats and oils processing. Some persons attended both short courses, which were held consecutively.

A research conference on fat requirements for development and health attracted 52 registrants.

A series of four short courses is scheduled to be held immediately before the 1986 annual meeting in Hawaii.

Philadelphia hotel offers refunds on wrongful charges

Attendees at the AOCS annual meeting who stayed at the Wyndham Franklin Plaza Hotel may have been billed for uncompleted telephone calls or toll-free calls.

A new, computerized telephone billing system at the hotel automatically billed long distance telephone calls unless the caller hung up within a certain number of seconds after dialing. The new system, at the time of the meeting, could not allow for calls when a caller waits a long time for an answer before hanging up. It also could not distinguish toll-free calls.

If you were billed for incompleted or toll-free long distance calls by the hotel, please write to the hotel manager, provide a photocopy of your bill and explain which calls were improperly billed and why. The hotel has said it will pay a refund or arrange a credit for calls paid for with a credit card.

Some exhibits offer food samples.

Uniform Methods Committee chairman Bill Link, left, echnical Director David Berner.

Youngest Fun Run participant was Ebony Hardin, 8 months old in May, riding on the back of her mother, Marsha.

Registration desk is focal point on opening day of meeting.

Governing Board members arrived for pre-meeting session in travel clothes.

Exhibits provide opportunity to learn what's new in equipment and services.

Sunday evening mixer at Franklin Institute included chamber music.

Fats & Oils News

Cottonseed record forecast

World cottonseed production for 1984/85 is expected to reach a record 34.16 million metric tons (MT), according to USDA figures released in April. The German weekly *Oil World*, meanwhile, predicted production at 33 million MT.

Cottonseed production during 1983/84 totalled 27.26 million MT. Factors involved in the large increase in 1984 included a record Chinese cottonseed crop estimated at over 12 million MT and a 72% increase in the U.S. cottonseed crop over 1983 production.

Also, a record cottonseed crush of 26.58 million MT worldwide is forecast, compared to a crush of 21.6 million MT during the 1983/84 marketing year.

China is the largest cottonseed producer, with 12.15 million MT forecast for 1984/85. The U.S. is expected to have produced 4.81 million MT, compared to 2.79 million MT in 1983, while the USSR, with 4.6 million MT in 1983/84, is expected to produce 4.68 million MT. Other major producers include India, with 2.76 million MT; Pakistan, with 1.94 million MT, and Brazil, with 1.51 million MT.

World cottonseed oil production, according to USDA, is forecast at 4.17 million MT, compared to 3.39 million MT in 1983/84. China, the USSR, Egypt, India, the U.S. and Pakistan are major producers and consumers of cottonseed oil. Major cottonseed oil exporting countries are the U.S. and Brazil.

A five-year, country-by-country data report for cottonseed and products—Foreign Agriculture Circular Supplement—is available from Director, Information Division, Room 5918-S Foreign Agricultural Service, Washington, D.C. 20250.

Rancid oil test described

AOCS member William L. Porter of the U.S. Army Natick Research and Development Center presented a paper to the American Chemical Society meeting earlier this spring describing a new method to test oil-containing foods for rancid oils.

The test involves exposing a plastic powder to the foods, then heating. If the plastic fluoresces beyond a certain level under ultraviolet light, the oil may be rancid, Porter said.

The method is of interest to the Army because it can be used to test large volumes of foodstuffs quickly. The Army uses 800,000 gallons a year of salad dressings, now rated with a five-month shelf life.

The foods require no special preparation for the test, which Porter cited as a major advantage.

"Since our test works directly on foods, it should be possible to screen them right in their packaging without using any fancy or expensive equipment," Porter said. "All you have to do is put glass plates in the tops of a representative sampling of the foods. Then, on a regular basis, say once a month, someone could go by with a hand-held ultraviolet light and see if any of the plates glowed. If they did, then more careful instrumental measurements could be made."

Porter's lab already has tested potato chips, carrots and breakfast foods successfully, he said.

Fats & Oils News

Enzyme market growth forecast

Industrial enzymes usage in the United States by 1988 is expected to be approximately $255 million, according to a report from Frost & Sullivan Inc., a market research firm.

Food usage, at $140 million in 1983, is expected to reach $190 million by 1988; pharmaceutical and medical usage, at $30 million in 1983, is forecast to be $40 million by 1988, and chemical usage, including use in detergents, was about $10 million in 1983 and is forecast to be $15 million by 1988.

Novo Industri of Denmark has more than 25% of the market, followed by G.B. Fermentations, subsidiary of Gist Brocade, about 20%, and Miles Labs, owned by Bayer A.G. of West Germany, about 10%, Frost & Sullivan said.

Copies of the report, Industrial Enzymes Market in the U.S. (#1185), are available for $1,500 each from Frost & Sullivan, 106 Fulton St., New York, NY 10038, or from Frost & Sullivan Ltd., 104-112 Marylebone Lane, London, W1M 5FU, England.

Rutgers, China sign agreement

Rutgers University has signed an agreement for its food science department to cooperate with the food science and technology department at Huazhong (Central China) Agricultural College at Wuhan, Hubei, China.

The Rutgers department is to serve as a consultant to its counterpart at Huazhong Agricultural College, advising on establishment of a curriculum, construction of a new building and selection of equipment for laboratories and a pilot plant. The two institutions also are to exchange faculty and students.

The Ministry of Agriculture, Animal Husbandry and Fisheries in China is establishing food science departments at agricultural colleges and has decided to set up a model department at the Huazhong facility.

Former AOCS President Stephen S. Chang is chairman of the Rutgers University Department of Food Science and is a native of China.

Olive oil standards endorsed

Members of the International Olive Oil Council unanimously adopted trade standards for olive oils and olive-residue oils during the council's meeting in April in Madrid. The trade standards cover physical and chemical characteristics of such oils.

Council members were asked to initiate steps by their various governments to adopt the standards. The council also agreed to ask the United Nations-related Codex Alimentarius Commission to amend its standards for quality and composition relating to olive and olive-residue oils.

The council also heard a report that olive oil consumption recently had outstripped production, a reversal attributed to publicity efforts internationally and domestically by producer nations.

An international olive oil agreement, in force since 1979, was extended until December 1986, pending a review scheduled for mid-1986 in Geneva under auspices of the United Nations Council on Trade and Development.

An Apple a day . . .

An associate professor of chemistry at Michigan Technological University in Houghton, Michigan has created a role-playing computer game designed to help students understand organic chemistry.

"Synthetic Adventure," created by Fred D. Williams, is geared for college sophomores who are taking their first year of organic chemistry. "It's also fun for professors of organic chemistry," Williams says. The game is designed for Apple computers.

Players are presented with challenges and must ask the right question, draw the right conclusion or apply what they know about a chemical reaction to solve the problem. At one point in the game, players are challenged by a piece of fat which blocks the way.

"Synthetic Adventure" can be purchased from Williams at the Department of Chemistry, Michigan Technological University, Houghton, Michigan (telephone 906-487-2141), for $30.

Signal honors

The Signal Research Center has presented Frederick C. Ramquist and Tamotsu Imai its Technological Achievement Award for creating a catalyst to more efficiently turn hydrocarbons found in kerosene into a petrochemical used to make biodegradable detergents. The two developed the DeH-7 Catalyst for the Pacol process, marketed by UOP Inc., a Des Plaines, Illinois, subsidiary of Signal. Meanwhile, AOCS member Robert F. Swenson was honored as one of the company's "unsung heroes" for his special contributions to the center in the area of chromatography.

News briefs

AOCS member **Cecil R. Smith Jr.** will conduct research on antitumor substances at the Institut de Chimie des Substances Naturelles in Gif-sur-Yvette, France, for the next two years. Smith, recipient of the 1984 Alton V. Bailey award given by the AOCS North Central Section, retired April 26, 1985 after 31½ years in governmental service, most of it spent at USDA's Northern Regional Research Center in Peoria, Illinois. Smith and his wife, Donna, left for France in May.

AOCS member **Daniel P. French**, chairman of the board of directors of the French Oil Mill Machinery Company, has been elected chief executive officer of the company. Meanwhile, **Irvin G. Bieser Jr.** has been elected company secretary. In other company appointments, **Robert L. Wonsetler** has been named product manager for injection molding machinery.

Cyclo Chemicals Corp. has named **Brigitte Duprez** as technical sales representative in the south central United States.

Buhler-Miag Inc., Minneapolis, has named **Curt Schneider** company vice chairman. Schneider had been president and chief executive officer since 1974. Replacing him in that capacity is **Anthony P. Beer**, formerly marketing director

of the Food Processing Machinery Division, FMC Corp., in Chicago.

Paul R. Staley, president and chief executive officer of The PQ Corporation, received the Chemical Marketing Research Association Memorial Award for 1985. The Memorial Award is presented annually to a chemical industry executive for contributions to the understanding, acceptance, methods and knowledge of chemical marketing research.

Fritzsche Dodge & Olcott Inc. has promoted **Don Marmo** to manager of technical and organoleptic quality assurance in flavor production.

John W. Hale has been appointed market manager of food products at Eastman Chemical Products Inc. Meanwhile, the company has appointed **Spencer Snook** as market specialist for food products.

Robert H. Hettrich has been appointed manager of sales, pharmaceuticals and foods for Foster Wheeler USA Corporation.

Stepan Company has announced the following promotions: Charles A. Brown, western regional sales manager for surfactants; Gregory Servatius, surfactant sales representative, northwestern U.S.; Joseph E. Lohr Jr., urethane applications manager; Ljiljana M. Polak, sales manager, Canada. Also, Stepan has appointed the Riverside Chemical Company, North Tonawanda, NY, as its distributor for surfactant products in the western New York area.

The name of the former Signal UOP Research Center in Des Plaines, Illinois, has been changed to the **Signal Research Center Inc.**, with Mary L. Good as center president and director of research.

The **International Wheat Gluten Association** (IWGA) has moved its offices to Prairie Village, Kansas. The association's new address is 4510 W. 89 St., Prairie Village, KS 66207.

Kaiser Aluminum & Chemical Corporation in April centralized management of its chemical businesses by moving management of **Kaiser Chemicals** from Oakland, California, to Cleveland, Ohio, to join with operations of the Harshaw/Filtrol Partnership co-owned and managed by Kaiser. Among those moving to Cleveland was Philip Grosso, formerly vice president and general manager of the Diversified Chemicals group, to become vice president, business centers, Kaiser Chemicals. Others relocating were Richard Damberg, business manager of chlor-alkali/brine chemicals; Bill Osborne, business manager, specialty aluminas, and Tom Yergovich, business manager, fluorochemicals.

Obituary

M.E. BOOMER

Merton E. Boomer, past chairman of the AOCS Northern California Section, died April 27, 1985. Mr. Boomer had been a member of the AOCS since 1950. He operated his own consulting firm, the Merton E. Boomer Co.