ASA Outlook: Oilseed trade issues are crucial

Three pending developments during December significantly may affect future trade in oilseeds and oilseed products between the U.S. and Europe.

First, the government leaders of European Economic Community (EEC) nations will meet December 5 and 6 in Brussels, Belgium, to consider once again a proposed tax on vegetable and marine fats and oils of approximately $375 per metric ton (MT).

Second, if the tax is approved, the American Soybean Association (ASA) certainly will file a charge that the EEC's support prices for oilseed producers constitute an unfair trading practice under the GATT (General Agreement on Trades and Tariffs). Even if the EEC oil tax is not approved, there is a chance that the complaint will be filed. U.S. officials were caught by surprise a year ago when almost immediately after the conclusion of oilseed trade negotiations on the entry of Spain and Portugal to the EEC, the fats and oils tax proposal was reintroduced as part of the EEC 1987 agricultural budget plan. Keeping the threat of a 301 complaint alive gives ASA a potential quick response to any future developments.

Third, U.S. representatives and Europeans meeting in Geneva for the Uruguay round of the GATT negotiations should be starting serious discussions regarding their respective positions on how GATT agricultural trade rules should be modified. Both sides say agricultural subsidies cost governments too much, but whereas U.S. officials talk in terms of eventually eliminating all subsidies, Europeans generally talk of reducing subsidies and controlling production. How those positions are reconciled will be important to all segments of U.S. agriculture, not just the oilseed sector.

When EEC agricultural ministers decided earlier this year to postpone a final discussion of the proposed fats and oils tax until December, many observers felt the proposal was doomed. But at ASA's annual European Outlook conference during mid-October in London, those closest to the situation said the tax still might be approved. Approval in December would require 54 out of the 76 votes cast by the 13 nations. Each nation's vote is weighted, with larger countries carrying more weight. In March of this year, ASA staffers could count five nations with 33 votes aligned against the tax. Now observers believe Portugal (five votes) has changed its position and will support the tax. At least 23 votes must be cast against the tax. Those nations considered as of mid-October as opposed were the United Kingdom (10 votes), West Germany (10 votes), The Netherlands (five votes) and Denmark (three votes). But staff members at the ASA office in Brussels continue to express concern, as they did in March, that a last-minute deal might induce West Germany to withdraw its opposition. If West Germany switches sides, so will The Netherlands and Denmark, one ASA staffer said, leaving the United Kingdom alone in opposition. Potential effects of the tax were discussed in the June 1987 issue of *JAOCS*.

EEC adoption of the tax would trigger filing of the ASA complaint claiming EEC oilseed production subsidies constitute an unfair trading practice. James Lee Adams, ASA's first vice president, told the mid-October Outlook conference that "ASA has prepared a Section 301 Unfair Trade Petition against the EEC's oilseed subsidies and stands ready to file it with the U.S. Trade Representative. Our 301 petition would request the U.S. Trade Representative to investigate the impact of the EEC oilseed regime on U.S. soybean and soybean meal exports, to determine that the regime is counter to the EEC obligations under GATT, and to achieve the elimination or satisfactory modification of the EEC oilseed regime to make it non-discriminatory" on U.S. soybean and meal.

Any decision in favor of ASA also would include an estimate as to the total damages done to U.S. interests by the "unfair" practices. ASA then could ask U.S. officials to set punitive import duties on EEC goods in an amount equal to damages. U.S. officials could assess such duties on any EEC imports to the U.S., not just agricultural goods. Thus, ASA representatives talk about potential tariffs on BMW automobiles and other German industrial goods. One ASA staffer explained that if punitive tariffs were targeted solely on agricultural products, EEC agricultural interests might determine that they would wind up paying large amounts of money either to European oilseed producers in subsidies or to the U.S. through punitive duties—in either case, the costs would be borne by the agricultural sector. By listing industrial goods as potential targets for tariffs, the ASA hopes to line up West German industrial interests against approval of the fats and oils tax.

Adams said ASA had been urged to go ahead and file the 301 complaint by officials in the Reagan Administration and by congressional representatives. The crux of ASA's argument, as outlined by Adams, is that EEC oilseed production and processing subsidies were established after the 1962 GATT negotiations in which Europe agreed to no duties on soybeans and soybean meal, and the subsidies "impair and nullify the duty-free bindings" on imports of soybeans and soybean meal.

European representatives responded to Adams by noting that Europe's push to increase oilseed production came largely after the 1973 U.S. embargo on soybean exports. Increased European oilseed production assures a supply of oil

and meal if non-European sources become unavailable.

The difference in U.S. and European approaches to the GATT negotiations were seen in talks to the ASA Outlook meeting by M. Samuels, deputy U.S. representative and ambassador to the GATT, and by Lord Plumb, president of the European Community Parliament.

Samuels said U.S. proposals call for gradual elimination (possibly over a 10-year period) of production subsidies. The U.S. has recommended decoupling of income support for farmers from production and trade, Samuels said. Income support programs should be designed so they do not affect trade, he argued, adding that non-tariff barriers also should be ended. A proposed EEC ban on hormonal chemicals in livestock, for instance, would be a "technical barrier" to trade that the U.S. opposes. EEC standards on imported meat that do not apply to domestic meat have resulted in unfruitful discussions, leading the U.S. to ask for a dispute panel to consider the matter, Samuels said, but the EEC has blocked the attempt to convene a dispute panel. Samuels also warned that any attempt by the EEC to eliminate the duty-free entry of U.S. soybeans and soybean oil into the EEC would mean the U.S. would "pull out all the stops."

Lord Plumb talked of "a standstill in the escalating subsidy war and . . . also a reduction of subsidies once we have achieved that standstill." Samuels noted the key difference in mid-October was that the U.S. spokesmen were using the verb "eliminate" while EEC spokesmen were using the verb "reduce." Both speakers spoke of decoupling income support from production subsidies.

There also was a feeling in mid-October that the Europeans were suggesting a division of world agricultural export markets akin to the "spheres of influence" political diplomacy of years past. EEC Agricultural Commissioner Fran Andriessen told a television interviewer in October that Europe might reduce its volume of wheat exports if the U.S. could accept reduced oilseed exports to Europe. One position paper considered by the EEC envisions not only a 10% tariff on oilseeds but also a 10% tariff on corn gluten feed and other protein sources. Those are the type of duties that Samuels said would incur the ire of the U.S.

Samuels did note that while past rounds of GATT talks have focused on industrial goods, the Uruguay round was expected to lead to major discussions on agriculture, one of 15 topics for negotiation during this round. He did express concern that as of mid-October, the only formal proposal on agriculture introduced at the GATT talks was that of the U.S. Official introduction of EEC proposals occurred shortly thereafter.

Lord Plumb noted that the EEC has problems in such negotiations because of its composition. "In the Council of Agricultural Ministers, for example, each minister has to bring home a victory. All 12 have to win. How do you use 12 victories to arrive at a common position? You can see at once how very difficult it is for an important decision regarding the future of the CAP (Common Agricultural Policy) to be either unanimous or subject to further negotiation in another forum," he said.

He noted that while U.S. negotiators are calling for more liberalized trading policies, there appeared to be calls from Congress for more protectionist legislation.

MIT conference:
Fish oil and other omega-3 sources

The following report on the Massachusetts Institute of Technology (MIT) symposium, "Health Effects of Omega-3 Fatty Acids: Fish Oil and Other Sources," was written by J. Edward Hunter of Procter & Gamble. Hunter serves as JAOCS' *Associate Editor for the News for Health and Nutrition.*

The need for large-scale human clinical trials to assess the safety and efficacy of increased fish oil consumption was a key recommendation given by several speakers at the conference on "Health Effects of Omega-3 Fatty Acids: Fish Oil and Other Sources," held Oct. 8, 1987, at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts.

The conference was cosponsored by the MIT Sea Grant Program (which supports university-based marine research in a variety of disciplines including living resource utilization), the New England Fisheries Development Foundation, and the International Life Sciences Institute (ILSI) Research Foundation. Approximately 300 persons attended, including physicians, scientists from universities and the pharmaceutical and food industries, and media representatives. The conference objectives were to summarize what is known about the health effects of omega-3 fatty acids and to identify future research needs.

Cardiovascular diseases and cancer

In the area of cardiovascular disease, presentations by D.R. Illingworth of Oregon State University and C. Hennekens of Brigham and Women's Hospital in Boston noted that high levels of dietary fish oil (20–25 grams per

day) reduce three major risk factors, that of blood triglycerides, clotting tendency and blood pressure. The major effect of low doses of fish oil (about 5 grams per day) is to lower triglycerides, although the extent of triglyceride reduction is greater at high doses. Low doses provide only slight reductions in clotting tendency and blood pressure.

Effects of fish oil on low-density lipoprotein (LDL) cholesterol are less well established, with reductions having been reported at high doses but increases (which may not be beneficial) observed at low doses. Non-insulin-dependent diabetics given fish oil supplements have experienced reduced triglycerides. However, they also have been found to have increased fasting blood glucose levels, a condition that aggravates their diabetes. While caution was urged in treating diabetes with fish oil, it was suggested that patients with severe hypertriglyceridemia may be logical patients for fish oil therapy. Both Illingworth and Hennekens recommended further studies (including large-scale clinical trials) to clarify the safety and efficacy of fish oils before establishing recommendations on their use.

In regard to cancer, K.K. Carroll of the University of Western Ontario reviewed animal data, indicating that diets high in fish oil but adequate in essential fatty acids result in the promotion of fewer carcinogen-induced colon or pancreatic tumors than diets high in corn oil. On the other hand, the apparent "protective" effect of fish oil has been seen only at high dietary levels (i.e., above 10% by weight). Carroll also noted that while numerous human epidemiological studies have indicated positive correlations between total fat intake and cancer mortality at various sites, a recent epidemiological study in the U.S. involving over 89,000 nurses has questioned the value of reducing dietary fat as a means of decreasing breast cancer risk. The latter study also showed no association between fish consumption and breast cancer risk. Similarly, studies with fish-eating populations such as the Greenland Eskimos have not found such populations to be at reduced risk for developing cancer compared to non-fish-eating populations.

Fish oil update

A group of Australian researchers reported earlier this year in *Science* that replacing linoleic fatty acid from safflower oil with long-chain polyunsaturated omega-3 fatty acids from fish oil can prevent the development of insulin resistance in rats. Researchers from Australia's St. Vincent's Hospital and the Commonwealth Scientific and Industrial Research Organization led by Leonard H. Storlien said the effects on rats fed this high fat diet "were most pronounced in the liver and skeletal muscle, which have important roles in glucose supply and demand."

While the study's results may prove to be important in the treatment or prevention of non-insulin-dependent diabetes mellitus, the researchers said care should be taken when extrapolating results from rats to humans. Approximately 59% of total calories in a high-fat diet for rats comes from fat, while human consumption of fats (in Western diets) ranges between 40%–45% of total intake. Also, even though the substitution of omega-3 fatty acids was small, a comparable increase in human consumption would be large.

"Nevertheless, therapy combining modest increases in omega-3 fatty acid intake with general reduction in total fat partially may be effective in the dietary treatment of non-insulin-dependent diabetes mellitus," Australian researchers reported.

Studies by the U.S. Department of Agriculture (USDA) indicate that fish oil may cause a vitamin E deficiency. Simin N. Meydani, a USDA researcher at Tufts University's Human Nutrition Research Center on Aging, has found that mice given fish oil may require six times more vitamin E than mice fed other types of dietary fats due to tocopherol loss during absorption. She reported in the May issue of *Lipids* that tocopherol status is affected by age and dietary fat type, especially fish oil.

It still is not known whether the addition of vitamin E to capsules would be enough to prevent deficiences. She believes the elderly may be most susceptible to such a shortage.

Delivering omega-3 fatty acids to the consumer

Discussing dietary sources of omega-3 fatty acids, J. Kinsella of Cornell University noted that when the omega-6 fatty acid intake is high, the body's response to omega-3 fatty acids is reduced. This apparently is because dietary omega-6 and omega-3 fatty acids compete for common sites in tissues. Kinsella suggested that the optimum dietary ratio of omega-6 to omega-3 fatty acids may be about three or four to one, although further work is needed to verify this relationship.

Although fish are probably the best dietary sources of omega-3 fatty acids, it is difficult to get sufficient omega-3 fatty acids from fish alone because most fish species consumed by Americans are relatively low in fat. Additional food sources of omega-3 fatty acids include certain vegetable oils such as soybean and canola, and leafy vegetables, such as spinach, purslane and lettuce. Kinsella also noted that the human requirement for vitamin E may increase for diets high in omega-3 fatty acids and that this potentially higher requirement needs to be investigated.

According to R.G. Ackman of the Technical University, Nova Scotia, undesirable heavy metals

and pesticides that may be present in crude fish oils are effectively removed by processing. Ackman commented that gelatin capsules prevent autoxidation of fish oils (i.e., capsules stored for up to four years have shown no significant oxidation or polymerization) and therefore may be the best means of conveying fish oils to the consumer.

V. Krukonis of Phasex Corp., Lawrence, Massachusetts, noted that supercritical fluid fractionation of fish oils using CO_2 as the solvent is a highly effective way of obtaining preparations greatly enriched in the omega-3 fatty acids, eicosapentaenoic and docosahexaenoic acids. W. Glinsman of the U.S. Food and Drug Administration (FDA) indicated uncertaintly as to when FDA will act on the petition, currently under review and sponsored by the National Bureau of Marine Fisheries, requesting Generally Recognized as Safe (GRAS) status of unhydrogenated and partially hydrogenated menhaden oil. Glinsman reiterated the need for studies to assure the efficacy and safety of fish oils so they can be classified properly. A. Simopoulos of the ILSI Research Foundation reviewed recent studies supporting the essentiality of dietary α-linolenic acid for humans and animals for proper development of the brain and retina.

Special presentations

Special lectures at the conference included the 15th annual Sea Grant lecture, "Impact of Dietary Fat on Human Health," presented by R.S. Lees, professor of cardiovascular diseases at MIT and director of medical research at Deaconess Hospital, Boston, and the summary lecture, "Health Education and Diet" by W.P. Castelli, medical director of the Framingham Heart Study. Lees commented that the association between dietary fat and atherosclerosis is stronger than proposed associations between dietary fat and other chronic diseases. Castelli recommended eating fish and shellfish as part of a healthy diet but advised against taking fish oil capsules (except for patients with very high blood triglycerides) because their safety and efficacy have not been established.

He also noted the recent establishment of the National Cholesterol Education Program whose purpose is to increase public and health professional awareness about the importance of lowering elevated blood cholesterol levels and to provide guidelines for doing this.

The conference proceedings will be published in book form by Marcel Dekker Inc. of New York, New York. No publication date has been announced yet.

Tropical fats labeling

Malaysians counterattack ASA drive

Malaysia's palm oil industry, stung by an American Soybean Association (ASA) drive to require foods with palm, palm kernel or coconut oil that are sold in the U.S. to be labeled differently than foods with other fats, held one-day seminars in six U.S. cities during October to counterattack.

Malaysians agreed that palm oil has about 50% saturated fat, but cited research in Europe and North America that palm oil may have an antithrombotic effect greater than that of less saturated oils and contended that palm oil's high carotenoid and tocopherol content may convey some protection against cancer. Kurt Berger, former staff member and now a consultant to the Palm Oil Research Institute of Malaysia (PORIM), drily noted in a Chicago media breakfast that if palm oil could be called highly saturated at 50% saturate content, perhaps it also could be called highly unsaturated since 50% content is unsaturated.

In their counterattack on soy oil, palm oil spokesmen noted that the British government has said *trans* content of oils should be considered part of the saturated content of an oil on food labels identifying saturated-unsaturated levels, and that there has been evidence linking more rapid development of cancer with polyunsaturated fats in the diet.

The proposed U.S. food labeling regulations would require precise listing of fat/oil sources with the phrase "a saturated fat" to follow palm, palm kernel or coconut oil listings. The ASA says the campaign primarily is aimed at protecting the health of consumers. Malaysia says original printed materials distributed to U.S. soybean growers emphasized how many bushels of soybeans it would take to supply oil equivalent to U.S. imports of palm, palm kernel and coconut oils. Malaysians say the labeling proposal really is an effort to build a non-monetary trade barrier. *Oil World* estimates U.S. 1986 domestic consumption of the 15 major oils and fats totalled almost nine million metric tons (MT), including 4.6 million MT of soybean oil, 287,000 MT of palm oil, 465,700 MT of coconut oil and 131,100 MT of palm kernel oil. Total consumption of the three tropical-origin oils thus is estimated at 884,000 MT. While virtually all the palm oil goes to edible use, about half the coconut oil probably is used for non-edible, or industrial, products.

U.S. per capita apparent consumption of all types of fat has increased during the past four decades, but the consumption of vegetable oils has been growing faster than that of animal fat. Thus, in the late 1950s, with total fat consumption at approximately 146 grams per capita per day, about 102 grams were from animal fat and 42 from vegetable oil. In 1980, the estimate was 99 grams of animal fat and 70 grams of vegetable oil per day per capita, for a total oil/fat consumption of 169 grams per day. In terms of food energy, in 1957–59

about 15.6% of calories came from saturated fat, 16.5% from oleic fat and 4.5% from linoleic; by 1980, the estimates were 14.6% from saturated, 16.8% from oleic and 6.3% from linoleic. The Malaysians contend dietary saturated fat in the American diet from palm oil virtually is negligible.

The proposal has the Malaysians concerned about several issues. First, they say the campaign is designed to scare American consumers away from products containing palm oil. About 5% to 10% of Malaysia's annual palm oil exports are to the U.S. In 1986, the U.S. imported approximately 305,000 MT of Malaysian palm oil; Malaysia's total palm oil exports that year were about 4.5 million MT.

Yusof Basiron of PORIM told attendees at a Chicago meeting that Malaysians also are fearful that if the U.S. adopts special labeling requirements for palm oil, other nations may take similar action.

The Malaysians maintain that work linking saturated fat with elevated serum cholesterol levels and heart disease was done decades before palm oil became a major edible oil. They dispute any assumption that the results of the previous work can be extrapolated to apply to palm oil and say more research is needed. The team planned to visit with American Heart Association and National Institutes of Health officials to discuss dietary recommendations from those groups. Augustine Ong of PORIM said he felt some of those recommendations were made without full awareness of what the latest research results have been.

The case for antithrombotic effects of palm oil developed from work by Gerard Hornstra at Limburg University in The Netherlands. Hornstra studied the amount of time it took for blockage to occur in the aorta of rats into which a loop-shaped plastic tube was inserted. His work showed that dietary saturated fat generally sped the blockage time and dietary polyunsaturated fat delayed blockage, with two exceptions. The blockage time for palm oil was the same as that for fats with 85% to 95% unsaturated fat; the blockage time for medium-chain triglycerides was shorter than expected based on saturated fat content. Soy oil spokesmen note Hornstra's method is unique to his investigations and has not been used yet by other investigators as a common investigative procedure.

Further work has focused on the tocopherol and tocotrienol constituents as factors. The tocotrienols may suppress cholesterol synthesis, which would counteract the cholesterol-raising effect normally expected of fats richer in saturates, G.F. de Witt of PORIM said.

With regard to cancer, de Witt said the β-carotene and vitamin E content of palm oil may inhibit cancer. Michael Parizzi of the University of Wisconsin reported on studies in his lab indicating total calorie intake is more positively correlated to tumorigenesis than just fat intake. He cited studies in which rats consuming "a high-fat diet under conditions of moderate restrictions (so that actual caloric intake was reduced by about 15%) developed mammary tumors much more slowly than rats given free access to a low-fat diet (where caloric intake was 15% greater)."

Soy oil proponents note such unsaponifiables are removed in processing and question what nutritional contribution they may provide in finished products.

Processing and uses of palm oil were topics covered by Berger and PORIM's M.S.A. Kheiri. Berger noted that palm oil, because of its saturate content, needs less processing for use as a frying fat than do highly unsaturated oils, thus lowering process costs. He also cited several studies on stability of palm oil as a frying fat. Work on rapeseed/palm oil frying blends is being done, Berger said. These presumably would be to encourage more use of palm oil in Europe and Japan, where rapeseed is a major edible oil. Kheiri reviewed technical data of various processing methods on palm oil.

Hearings on the labeling proposal were held Sept. 10 by a subcommittee of the U.S. House Agriculture Committee. A representative of Hill & Knowlton, the U.S. public relations firm hired by Malaysia to assist with its counter-efforts, said those hearings were mainly "for constituents" as jurisdiction for food labeling legislation belongs to a separate house committee. Rep. Dan Glickman has been the main proponent and sponsor of the proposed legislation. His press secretary said in mid-October that a subcommittee of the House Energy and Commerce Committee has jurisdiction for labeling legislation and that Glickman has asked Rep. Henry Waxman, chairman of the subcommittee on health and education, to have Waxman's subcommittee consider the proposal. Waxman's subcommittee could, if it choses, hold hearings in late 1987 or in the early part of 1988 to consider the proposed legislation. The subcommittee also could decide to consider the proposal without formal hearings. On Oct. 20, the U.S. Senate Committee on Agriculture defeated a motion to require the labeling of tropical oils by a 10-to-8 vote.

The palm oil symposium was held in San Francisco, Minneapolis, Chicago, Dallas, Washington, D.C., and New York.

Tunku Mansur Yaacob, executive director for Harrisons Plantations, told those attending the symposium that palm oil supplies would continue to increase in the future. He mentioned work on developing new hybrids of African and South American oil palm that Berger said has produced an oil with an iodine value of 72, compared to 53 for the predominant current varieties. Commercialization of such hybrids is one to two decades away, however, given the time required to produce sufficient quantity and for oil palm plants to reach maturity. Researchers also are looking at a slower-growing, higher-yielding variety that could produce up to eight MT of oil per hectare, compared to the present yield of about five MT/hectare. While one commercial venture with tissue-culture propagation went awry, Ong said PORIM's work is continuing and commercial plantings are foreseen for the 1990s.

Even without tissue culture, Tunku Mansur estimated Malaysia's oil palm production will reach 5.6-8 million MT annually in the 1990s and 10 million MT annually by the year 2000.

Oilseed crop projections

The U.S. Department of Agriculture (USDA) anticipates a record world oilseed crop of 202 million metric tons (MT) in 1987/88, up nearly 3% from 196 million MT for 1986/87.

World soybean production is projected to rise to a record 103 million MT, with increases also predicted for cottonseed, peanuts, rapeseed and sunflowerseed crops.

Larger soybean production in South America and in the European Economic Community (EEC) is likely to cut U.S. soybean exports by 9% in 1987/88, to 18.2 million MT. U.S. soybean exports were strong late in the 1986/87 marketing year due to June closings of soybean export registrations in Brazil and larger crushings in Argentina.

USDA has predicted that Argentina and Brazil will continue to crush a large share of their soybean crops in efforts to maintain big exports of soybean products. Contrary to earlier expectations, Argentina did not eliminate export tax differentials between soybeans and products. Instead, it cut taxes on soybeans and eliminated those on oilseed product exports. Soybean production in Argentina is expected to increase 5–10% during the 1987/88 year, to 8–8.5 million MT, versus 7.5 million MT during the past crop year.

With USDA's announcement of a 1987 soybean loan rate of $4.77 per bushel, U.S. soybean market prices in 1987/88 are forecast at $4.70 to $5 a bushel. Big stocks of vegetable oil, large competing oilseed crops and the projected recovery of palm oil production will limit world trade in soybean oil. India, the world's largest vegetable oil importer, will step up imports this year because a drought has cut sharply peanut and soybean production.

USDA's crop production report in early October predicted the 1987 U.S. soybean crop would reach 1.968 billion bushels. The U.S. peanut crop is expected to be around 1.77 million MT, rebounding 12% from the previous year's drought-reduced crop. Despite a 3% cut in plantings, production was up because of higher yields.

World rapeseed production during the 1987/88 crop year is forecast to reach a record level of more than 22.1 million MT. Double-low rapeseed, low in erucic acid and glucosinolates, is gaining wider acceptance, especially among EEC producers. European rapeseed production, experiencing tremendous growth, is forecast to reach 5.8 million MT in 1987/88. A major increase has been in the French crop, which soared to 2.65 million MT due to record yields. Rapeseed production in the United Kingdom, West Germany and Denmark also was at record or near-record levels.

EEC oilseed production is up to 11.5 million MT, almost double the quantity produced three years ago and five times the level achieved eight years ago, according to *Oil World*.

International

Japan

Japanese demand for fats for animal feed increased to 254,000 metric tons (MT) during 1986, up 7% from the previous year and 20 times the amount used 20 years ago, according to statistics from the Japan Oil Chemists' Society (JOCS).

Predominant fats for feed were tallow and chicken fat supplied by domestic renderers. However, JOCS predicted that mixed fats from vegetable oils and fats such as palm oil also will see increasing use in feed.

A Japan Oilseed Processors Association survey on consumer awareness on the health aspects of consuming vegetable found 56% knew there were two types of cholesterol and 43% knew vegetable oils may affect serum cholesterol levels. Of those polled, 36% knew linoleic acid is not made in the human body and 44% indicated they knew vegetable oils contain vitamin E. Consumers also were cognizant of such terms as linoleic acid, linolenic acid, essential fatty acids, unsaturated fatty acids, cholesterol, oxidation of oil and lipid peroxides.

Meanwhile, Saiwai Trading Co. of Japan has developed a chicken fat product for use in restaurants and in food products. The product, developed with the Japan Firm Co., includes a natural antioxidant from oil-soluble licorice extract.

India

The government of India announced on Sept. 25 that it would import 1 million MT of oilseeds. According to *Oil World*, the bulk of the imports probably will be rapeseed, with some soybeans also imported. India's National Dairy Development Board (NDDB) was to make the determination.

Most of the rapeseed is expected to arrive by March 1988. Soybean imports, meanwhile, may not begin before April 1988.

The Solvent Extractors' Association of India (SEA) and other associations have pleaded that India import more oilseeds in lieu of oil to meet domestic demand. According to SEA's September newsletter, a drought affecting domestic oilseed production will cause a shortage of edible oil, higher prices, idle processing capacity and unemployment in the coming months. In a press conference, SEA said it was imperative that India import approximately 3 million MT of oilseeds in order to meet demand and maintain reasonable oil prices.

According to *Oil World*, India is likely to import 1.8 million MT of vegetable oils and 800,000 MT of rapeseed and soybeans to meet drought-caused oilseed shortages. Meanwhile, *The Cocomunity* newsletter said India is expected to increase vegetable oil imports in 1987/88 to 2.5 million MT, mainly through additional imports of palm oil from Malaysia and Indonesia.

United Kingdom

The United Kingdom's (U.K.) Guidelines on Nutrition Labeling have been finalized and published. Draft guidelines, including the draft fat content labeling regulations, were issued originally in February 1986.

In the final guidelines, the U.K. has made nutrition labeling of foods voluntary, and has shelved proposed fat content labeling regulations until agreement can be reached with the European Economic Community in this area. The guidelines set three stages for declaring nutrients. The order of principal nutrients has been set as energy, protein, carbohydrate and fat. "Saturates" no longer form part of the minimum-required nutrition information but can be declared at the second stage. If a manufacturer proceeds to the third stage, it must declare sodium and fiber. Further options are provided for declaring starch and/or poly-unsaturates and monounsaturates. Vitamins and minerals, however, have been eliminated from the scope of the guidelines.

Kenya

Kenya's government has eliminated its 40% import duty on soybeans, according to a report in *Soybean Update* published by the American Soybean Association (ASA). ASA said the action may encourage the development of a soybean crushing industry in Kenya.

Ireland

For the first time, market shares in Ireland for margarine and butter are equal. June 1987 data showed butter and margarine each with 37% of the market, spreads with 23% and light butter with 3%, according to the September newsletter from the European trade associations for the margarine industry.

Purchase means staff changes

A number of AOCS members formerly employed by Anderson Clayton Foods have been appointed to positions at Kraft Inc., which purchased the division earlier this year from the Quaker Oats Co.

Ronald D. Harris, who worked at Anderson Clayton's Richardson, Texas, facility, has moved to Kraft's Glenview, Illinois, office where he will work as vice president of technology. Others from the Richardson offices who have been assigned in Glenview are research associates Gerard L. Hasenhuetil and Shu-Chi Lee, and Peter J. Wan, who has been named technology manager of lipid chemistry. Michael Dritschel has been appointed to a position at Kraft's Skokie, Illinois, facility.

Robert C. Edmondson, Walter E. Farr and Richard D. O'Brien, all previously at Anderson Clayton's Dallas office, have accepted positions in Memphis, Tennessee, with Kraft's Industrial Foods Group. Edmondson is vice president of manufacturing and O'Brien is manager of technical services. Farr, as director of manufacturing technology, will provide technical assistance to all Anderson Clayton Foods and Humko Products manufacturing plants, now combined under Kraft's Industrial Foods Group. Anderson Clayton plants are located in Sherman, Texas, and Jacksonville, Illinois. Humko has plants in Memphis; Champaign, Illinois; Buena Park, California; and Albany, Minnesota.

Jesse Covey and Russell C. Walker (both from the W.L. Clayton Research Center in Richardson, Texas), Harry W. Liese (of the Dallas office), and Wayne Kottwitz and Robert L. Campbell (both from the Sherman, Texas, facility) have retired. Covey plans to consult. The Richardson research labs closed Oct. 31, 1987; the Dallas offices will remain partially staffed until early January 1988 to take care of personnel matters.

Sherman Lin, previously a research associate at Richardson, now works for 3I Corp. in Plano, Texas.

Grain explosions

Twenty-one grain dust explosions were reported in the U.S. during 1986, according to data compiled by the U.S. Federal Grain Inspection Service and Kansas State University. That number was comparable to 1985, when there were 22 explosions, and to a 10-year average of 21 explosions annually.

In nine of the 21 explosions during 1986, the principle location of the primary explosion was in the elevator leg. Eleven of the explosions occurred in grain elevators, five in feed mills, two in rice plants and one each in a flour mill, malt mill and alcohol plant.

Scholarships

Three students in Taiwan during 1987 received scholarship awards by the Advisory Committee of Research and Development to the Food Industry in Taiwan, convened by Stephen S. Chang of Rutgers University. Recipients during 1987 were Char Dar-Shiang at Fu-Jen University (first place), Lue Shing-Jiang at National Taiwan University (second place) and Chen Shiang-Yn, also at National Taiwan University (third place).

The advisory committee first established the scholarship in 1984 to encourage students to pursue careers in food science and technology in Taiwan. Students selected receive a plaque and an award of $1,000 for first place, $500 for second place and $300 for third place.

Enzyme patent

A U.S. Department of Agriculture (USDA) researcher has applied for a patent on an enzymatic process that could be used in the hydrolysis of tallow and vegetable oils. The process, which uses a catalytic membrane to cause reactions between two immiscible fluids, has been created with the intention that it eventually might compete economically with present oil processing methods, according to Frank Taylor, a chemical engineer with USDA's Eastern Regional Research Center (ERRC) and the patent applicant. The main work now is on the hydrolysis of tallow.

"In determining temperature for hydrolysis, there are two competing factors. It must be low enough to maintain oil stability and to prevent denaturation of the lipase, yet it also must be high enough to keep the reaction going and limit contamination," Taylor said. Because the research originally had been aimed at finding other ways of hydrolyzing tallow, it was necessary to find a lipase that would be thermostable at 50 C or higher, he added. Researchers at ERRC discovered that a lipase from *Thermomyces lanuginosus* could be used in the process.

According to Taylor, lipase-driven hydrolytic reactions aren't close to being economically competitive yet, but by immobilizing lipases, enzyme costs are reduced. "Lipase processes could cost nearly 10 cents a pound," he said. Taylor has applied for funds to bring the project up to pilot-plant scale.

Olestra unit

The Procter & Gamble Co. (P&G) has established a new division to handle olestra, the company's calorie-free fat replacement. Olestra, formerly called sucrose polyester, has potential applications that include use in ice cream, butter, margarine and other foods.

To date, however, the company has sought U.S. Food and Drug Administration (FDA) approval only for shortenings, oils and salted snacks. Until the FDA reviews and approves its use, P&G remains unable to market the product. The formation of the Olestra Division "will enable us to assess opportunities in the market in a more structured way," a company spokesman said.

Soy drinks

A fully automated liquid soy production plant has gone onstream in Issenheim, France. The facility uses Alfa Laval equipment to produce vanilla, plain and chocolate-flavored soy drinks and vanilla and chocolate-flavored desserts under the brand name "Bioforme."

According to "Soybean Update" published by the American Soybean Association's Brussels office, the Coopérative Agricole des Céréales, a cooperative of 3,000 French farmers, joined foces with Alfa-Laval to build the facility. For more information, contact the Coopérative Agricole des Céréales, 10 rue Lavoisier, Z.I. Nord, 68000 Colmar, France.

Meanwhile, in the United Kingdom, the British company St. Ivel has developed natural and sweetened varieties of fresh soymilk.

News briefs

Unichema Chemicals Inc. has relocated its corporate headquarters from New Jersey to Chicago, Illinois, site of its 25-acre manufacturing facility. Unichema's new address is 4650 S. Racine Ave., Chicago, IL 60609, telephone 312-376-9000. The move consolidated corporate administration, sales and marketing, research and development, customer services and manufacturing. The Chicago facility produces fatty acids and glycerine from fats and oils. In addition, the company imports fatty acids, derivatives and nickel catalysts produced at affiliated companies around the world.

Emery Chemicals has promoted Dennis Shelton to the new position of director of operations, responsible for Emery's domestic manufacturing operations in Cincinnati, Ohio; Lock Haven, Pennsylvania; Mauldin, South Carolina, and Los Angeles, California. Also, **Fred Tritschler** has been named director of engineering and **Mike Westfall** promoted to manager of process engineering. In other appointments, **Bob Ruebusch** and **Marv Schram** have been named business planning manager and planning analyst, respectively.

Borden Inc. has acquired **Laura Scudder's Inc.**, a California-based manufacturer and distributor of potato chips, other snacks and peanut butter.

Shenandoah Products Inc. has been renamed **Perdue Foods Inc.** The company is a subsidiary of **Perdue Farms Inc.**

Eloise J. McKitric has been named manager of consumer service for **Kraft Inc.**

Leybold-Heraeus has been acquired as a wholly owned subsidiary of **Degussa AG**, one of three previous owners and a West German producer of chemicals, metals and pharmaceuticals. As a result, the company name has been changed to **Leybold AG**, with company

headquarters moved from Cologne to Hanau, West Germany.

Land O'Lakes Inc. has consolidated its fluid milk and ice cream businesses into a new corporation, **Country Lake Foods Inc.**

Gary E. Johnson has been appointed technical sales representative for the enzyme division of **Novo Laboratories Inc.** He will be based in Huntington Beach, California.

Experience Inc., a Minneapolis, Minnesota, agribusiness/agriculture consulting firm, received the 1987 Governor's International Trade Award at the Minnesota World Trade Conference in September.

The Julien Group of Memphis, Tennessee, has purchased the stock of **Western Cotton Services Co.**, a former subsidiary of Anderson Clayton & Co., from **Quaker Oats Co.** Western Cotton Services Co. operates two oil mills, two cotton warehouses and 31 cotton gins in Arizona and California.

The **National Cottonseed Products Association (NCPA)** has requested a rehearing on a Circuit Court of Appeals decision that upheld a government agency regulation requiring medical surveillance in cottonseed oil mills due to the presence of cotton dust. NCPA said the principle involved is whether a government agency can impose medical surveillance, testing and record-keeping on an industry in the absence of any detectable risk to health. A three-judge panel in the District of Columbia made its decision regarding the Occupational Safety and Health Administration's (OSHA) rule in early August.

Simon-Rosedowns Ltd. of Hull, England, has completed a construction project for a hydrogenation plant for National Flour Mills in Trinidad. The facility will produce hardened soybean oil for use in confectionery products.

Biotech briefs

RJR Nabisco and **BioTechnica** have announced they will form a joint venture to develop consumer products using genetic engineering techniques. The companies said the goal will be to develop varieties of crops of importance to RJR Nabisco and featuring such crop characteristics as increased nutritional value, better flavor and enhanced disease resistance or products with a longer shelf-life. The venture will operate as a research partnership among Nabisco Brands Inc. and Del Monte Corp., both wholly owned subsidiaries of RJR Nabisco Inc., and two affiliated BioTechnica companies, BioTechnica International of Cambridge, Massachusetts, and BioTechnica Canada of Calgary, Alberta.

Joseph F. Schwer has been appointed vice president of research and development for **Agrigenetics Corp.**, a subsidiary of **Lubrizol Corp.** Meanwhile, **Sungene Technologies Corp.** has named **Agrigenetics** as distributor for its first seed products, scheduled for introduction into the U.S. field corn market in 1989. Sungene is developing the new seeds using patented biotechnology. Meanwhile, **William A. Hoskins** succeeds **William J. Reid** as president of **Sungene.** Reid resigned to pursue other business interests. **Sally Supplee**, formerly controller, was elected vice president of finance and chief financial officer.

Repligen Corp., **Sandoz Ltd.** and **Sandoz Chemicals Corp.** have formed a joint-venture corporation to develop biotechnology-derived products for industrial and agricultural applications. The new company is named **Repligen-Sandoz Research Corp.**

Calgene Inc. has appointed **Thomas L. Churchwell** and **John L. Vohs** to its board of directors. Churchwell is a venture capitalist and consultant and Vohs is associate dean of the College of Letters and Sciences, University of California at Davis.