Canola market growth to continue

The Canadian canola industry can expect growth in three of its major markets—Japan, Mexico and the U.S.—but that expansion may be affected by a slowdown in Japanese oil consumption, possible changes in Mexican oilseed policies, and trade issues between the U.S. and Canada. So predicted fats and oils industry representatives who spoke at the 21st annual meeting of the Canola Council held in Vancouver, British Columbia, Canada, in March.

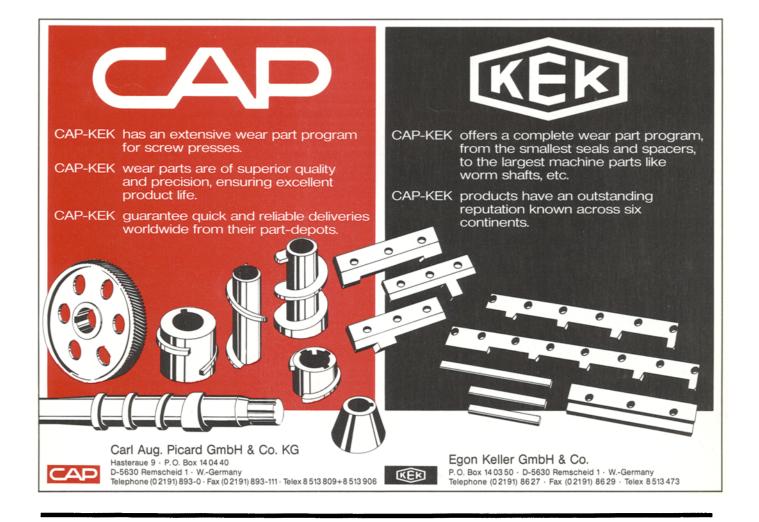
More than 95% of canola seed imported by Japan comes from Canada, a trend that will continue, according to Isao Ueda, chairman of the canola committee of the Japan Oil and Fat Importers and Exporters Association and team leader for Mitsubishi Corp.'s oilseeds division.

In 1987, Japan imported 1.66 million metric tons (MT) of canola seed, up from 819,000 MT in 1978; however, "Japanese imports of canola seed will stabilize in the medium-term basis," Ueda said. One reason for the stabilization is the decline in the growth rate for vegetable oil consumption. Japanese vegetable oil consumption increased 8.4% between 1978 and 1980, 3.4% between 1981 and 1983, and 2.1% between 1983 and 1985. "We can expect only 1%-2% growth from now on," Ueda said.

Compound feed demand also will not increase as much as it has in the past because the strength of the yen has allowed Japan to import meat, he added. However, there is a chance that Canadian canola meal exporters may be able

to enter markets generally held by Japanese crushers because the freight rate from Canada to certain sections of Japan is cheaper than domestic barge rates.

Marketing efforts in Mexico by the Canadian canola industry "will be rewarded with a growing, dynamic marketplace," according to Jim Middagh, vice president of Northern Sales Co. However, he added, industry is not likely to have a repeat of 1986/87 when 320,000 MT of canola seed were sold in Mexico. Last vear's sales were aided by several factors: ample canola supplies, reasonable prices and almost non-existent competition from U.S. and Argentine sunflowerseed. Middagh said a realistic estimate for canola seed exports to Mexico in 1987/88 is



220,000 MT, well above the 114,000 MT in 1985/86 and the 21,000 MT in 1980/81.

Until its new agricultural policies go into effect, Mexico will continue to be an oilseed and oil importer, but whether Mexico will buy canola depends on many factors. European rapeseed surpluses in need of a market and the trend in Mexico toward higher oil imports could adversely affect Canadian canola seed exports, Middagh said. "At present, crush margins in Mexico are not too good; this favors oil imports over seed imports. Oil is much cheaper from South America and Europe, so it will be difficult to enjoy the benefit of maintaining the market through oil sales.'

Canola's export potential is enhanced by an improved credit policy should Mexico have a problem with foreign exchange. The Export Development Corporation's agricultural credit insurance policy has allowed Canada to be "fully competitive with the U.S. on credit for terms up to three years," he said. When Mexico was "in a foreign exchange crisis" in 1985/86, the Mexican government required crushers to have access to three years' credit before validating import licenses, Middagh said.

He described canola as a "quality product gaining greater acceptance" and suggested that canola producers "capitalize on the favorable U.S. press to move canola into the forefront in Mexico."

One reason for the increase in canola oil imports into the U.S. is its favorable image, according to Les Rankin, CSP Foods Ltd.'s general manager for commodity marketing. "The nutritional studies performed by U.S. companies (such as Procter & Gamble, which uses canola in its Puritan Oil) advanced our informational base and showed that under the climate of emphasis on healthful living, canola oil had many benefits to the American consumer," he said.

Statistics Canada data indicated that the U.S. imported 77,000 MT of canola oil in 1987, up from 4,023 MT in 1984, but Rankin pointed out that before the canola industry becomes "too exhilarated with our success or too apologetic to vegetable oil competitors in the

U.S., we must realize the immense size of the American market and our small part of it." Last year, Canadian canola obtained 1.2% of the U.S. oil market. Rankin said.

While there will be growth for Canadian canola oil in the U.S. market, that expansion will be limited by supply, the present system of labeling in the U.S., canola production in the U.S. and trade issues, Rankin said. If the U.S. Food and Drug Administration allows the phrase "canola oil" to be used instead of "low erucic acid rapeseed oil" on labels, there could be an increase is usage "not unlike the increase experienced over the last two years."

Although the canola industry might see an increase in the production, crushing and refining of canola in the U.S., "the demand in the first several years for canola oil will exceed the desire to grow the seed in the U.S.," according to Rankin. He estimated there would less than two million acres grown in the U.S. each year during the next five years because many U.S. growers are unfamiliar with the crop and there is a need for varieties suitable to a wider range of growing areas.

However, some U.S. companies have contracted for canola production. Frito-Lay, for instance, held meetings with growers in Minnesota and North Dakota in early March in an effort to contract 45,000 acres of spring canola. The company also is considering contracting for winter canola in Kansas, the Canola Digest reported.

The free trade agreement between the U.S. and Canada (scheduled to go into effect in 1989) poses one problem for the canola industry, Rankin said. The negotiators for Canada "negotiated away" rights granted under the Western Grain Transportation Act, which allowed canola oil and meal to be shipped to Western Canada for export to the U.S. Pacific Northwest at reduced freight rates, Rankin said. "The cost to our industry on extra freight, if we are to maintain our current market volumes, let alone expand, would be an extra \$4 million per year." In exchange for the higher freight rate, the industry would have preferred that the tariff phaseout on vegetable oil and meal occur more rapidly than the 10-year period agreed to by the two nations, according to Rankin.

On the quality side, Richard Groundwater of the Canadian Grain Commission spoke about canola grading specifications currently under review by the commission. The chlorophyll content of canola is measured visually, but the Western Grain Standards Committee, made up of industry and government representatives, has proposed that instrumental measurement of chlorophyll become an official grading procedure.

"The major goal of instrumental measurement of chlorophyll is to give an objective measurement of green pigments that reduce the value of the seed to processors. Although chlorophyll is not a problem in most oilseeds, it is responsible for the major degrading factor in canola, and our industry must deal with this using the best techniques available," Groundwater said. He added, "A change to instrumental measurement as a grading procedure would mean the farmer would receive payment that directly reflects the value of his or her product in terms of chlorophyll."

Groundwater noted that in cases in which canola from Brassica campestris may look greener than seed from B. napus, it may actually have a chlorophyll content similar to B. napus. B. napus varieties are consistently higher in chlorophyll content, he said, noting that using instrumentation instead of the visual method would more accurately measure the levels.

The Grain Commission has worked with instrument companies to adapt a near infrared analyzer to measure reflected light in the visible wavelength range appropriate for chlorophyll detection. Tests have been run to compare the instrument's performance with the "wet chemistry" or Swedish procedure, and the commission will carry out studies to see how operator error, sampling variation and other factors affect test results, Groundwater said.

Meanwhile, Keith Downey of Agriculture Canada and David Hol-

man of ContiSeed announced that several canola varieties are being evaluated. According to Downey, a Saskatoon high-oil line with good resistance to the disease blackleg will be tested on a field scale this year, and a Swedish line with resistance to blackleg will be registered later in the year. A strain withresistance to white rust and with higher oil and seed yields is now in its second year of Co-op Trials. The Co-op Trials are required by Agriculture Canada before new seeds can be registered in the country.

Holman said several of ContiSeed's hybrids will be evaluated in government trials this year, and the company's own tests on the hybrids are "encouraging." In tests comparing experimental hybrid yields with the Westar variety, the prevalent variety in Canada, the company found that some of the experimental varieties had yields that were 18% to 26% higher than average Westar yields.

Another Canadian company, Allelix Inc., has a number of hybrids undergoing government evaluation, according to Bruce Magee, the company's business manager for canola. Magee said that no company has a canola hybrid on the market yet. Allelix is interested in developing varieties suitable for the U.S.

Chinese diet

Studies on Chinese dietary habits and disease patterns indicate the Chinese consume 20% more calories per body weight than Americans, but there is little obesity. They also consume three times more fiber and far less fat than average Americans, according to T. Colin Campbell of Cornell University.

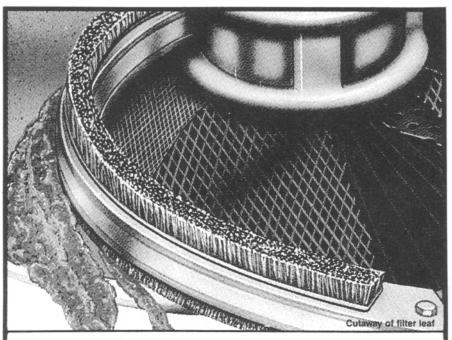
Campbell and three colleagues from China and England conducted a six-year study of Chinese dietary patterns, and Campbell has presented some data from that study at a U.S. Senate hearing on nutrition and health, *Science* said.

Even though the Chinese consume more calories, Campbell explained there are several reasons why there is little obesity. Activity level is important, but Campbell suspects types of calories and utilization of those calories may play a role in obesity. He said caloric intake may not necessarily be a determinant of obesity or of chronic disease risk.

Campbell and his associates found that fat intakes in China range from 6% to 25% of total calo-

ries with the average being 15%, compared with the U.S. average of 40%. Plasma cholesterol levels range from 90 to 175 milligrams per deciliter. Average fiber consumption is 34 grams per day.

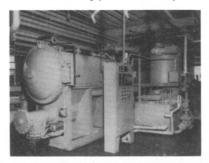
Science said the researchers went to China following the publication of the Cancer Atlas of China by the Chinese Cancer Institute. The atlas indicated that cancer in



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China is a local disease for which mortality rates vary greatly by county. Diet and lifestyle likewise vary tremendously, *Science* said, adding that people often live their whole life in the county where they were born and eat locally grown foods. This allowed the scientists to look at the health effects of specific, constant diets. The study, which will be published later this year, was conducted in 130 sites. The data collected will be used to examine the role of diet in 12 cancers and 35 other diseases.

Fish oil capsules

The American Heart Association (AHA) has recommended in its revised "Dietary Guidelines for Healthy American Adults" that people not use fish oil supplements to lower blood cholesterol levels. "The health benefit of fish oil capsules has not been proven," AHA said, adding, "The benefits and risks of fish oil consumption need to be defined by further research."

AHA said even though studies indicate some benefits come from the regular consumption of fish, the affects of omega-3 fatty acids are not completely clear. "Fish oils interfere with the ability of blood to clot and to form protective barriers to hemorrhage. While this effect can be useful in some circumstances, it may also be harmful and is a potential risk when large amounts of fish oil are consumed," AHA said. AHA still recommends regular consumption of fish.

AHA also recommended in the March issue of *Circulation* that total cholesterol intake not exceed 300 milligrams per day regardless of caloric intake. Previously, AHA recommended that the cholesterol limit be 300 milligrams for every 1,000 calories consumed.

Plant closing

ADM Oelmuehlen GmbH, a subsidiary of the Archer Daniels Midland Co. (ADM), has announced it will close its Hamburg, West Germany, oil mill and refinery by mid-1988.

A company spokesman said the

closure was due to industry developments that made the mill unviable in the long-term, according to a report in *The Public Ledger*. A report from the U.S. agricultural officer at the U.S. embassy in Bonn, West Germany, noted that the plant has been unprofitable, primarily because it is not directly located on the seaport; consequently, soybeans must be discharged from ocean vessels onto trucks to travel to the facility.

ADM's Hamburg facility has processed approximately 800,000 metric tons (MT) of soybeans and 400,000 MT of rapeseed annually. It was one of the mills ADM purchased from the Unilever group in 1986. ADM's Spyck mill on the lower Rhine will continue to operate.

The ag attache said the closing will have considerable impact on the West German supply and distribution of soybeans and products. Other Germany mills may only be able to increase their annual soybean crush by approximately 200,000 MT, the ag attache noted, adding that rapeseed farmers in Northern Germany also may face serious marketing problems due to the closing.

Acquisitions

The Paymaster Oil Mill Co., formerly a wholly owned subsidiary of Anderson, Clayton and Co. before the latter was acquired by Quaker Oats, is being purchased by International Proteins Corp. of Woodbridge, New Jersey.

Paymaster owns and operates cottonseed crushing facilities at Richmond, Lubbock and Abilene, Texas. The company also has a cottonseed oil refinery in Abilene and 15 cotton gins in Texas.

Meanwhile, the Julien Co. of Memphis, Tennessee, has purchased Anderson, Clayton and Co.'s Western Cotton Services Division, with oil crushing facilities and gins in California and Arizona.

Partnership

Sungene Technologies Corp. and The Lubrizol Corp. have formed a partnership company, Sunagra Research, to commercialize new plant products developed through the use of advanced biotechnology techniques.

The two companies said they would provide \$20 million in funding for product development to the partnership over the next three years. Sunagra Research initially aims to develop and commercialize elite germplasm for field corn, sunflowers and rapeseed. The partnership will support research projects directed to creating corn resistant to disease and pests, and specialty sunflower and rapeseed products for food and industrial markets.

Products developed by Sunagra Research will be sold by Agrigenetics Corp., a Lubrizol subsidiary, under a separate marketing and license agreement.

Catalyst venture

American Cyanamid Co., Shell Oil Co. and Shell International Chemical Co. have agreed to form a global joint venture to manufacture and sell refinery and selected chemical process catalysts. The new venture, Criterion Catalyst Co. LP, will be a limited partnership with head-quarters in Houston, Texas.

Criterion will own and operate catalyst manufacturing plants in Azusa and Pittsburg, California, and Michigan City, Indiana.

The new company will market several types of refinery catalysts, including hydrotreating, hydrocracking, hydrogenation, catalytic reforming and isomerization catalysts.

Catalyst manufacturing facilities in Willow Island, West Virginia; Welland, Ontario, and Medicine Hat, Alberta, Canada; Gosport, United Kingdom; and Ghent, Belgium, will remain under ownership of the companies associated with the Criterion partners but will manufacture products for the venture.

Canola venture

DNA Plant Technology Corp. (DNAP) and the ContiSeed Division of Continental Grain Co. will collaborate in a broad program to develop varieties of plants that pro-

Fats & Oils News Reflected to the Research

duce edible oils with health and nutritional benefits.

DNAP will apply plant biotechnology and breeding techniques to develop plant varieties that produce edible oils with improved fatty acid composition as well as improved processing and formulation characteristics. Continental Grain, through its ContiSeed Division, will contribute germplasm to the program, its traditional plant breeding expertise, and access to its world-wide field-testing capabilities.

As previously announced, DNAP is working in this area under an agreement with E.I Du Pont de Nemours and Co. Canola is a principal focus of work in the program.

Contamination

Contaminated olive oil reportedly was found in West Germany, according to a report in Oil World.

Samples of cold-pressed olive oil imported from France, Italy and Spain contained dangerously high levels of the chemical Perchloroethylene, known to cause cancer in animals.

Oil World said West German authorities and the European Economic Community (EEC) Commission were trying to determine where the contamination occurred and were taking steps to eliminate additional damage.

Oil-powered car

Protech Chemical Investments Inc., an Australian firm, has developed a car fueled by vegetable oil, according to reports in *The Cocomunity Newsletter* and *UCAP Weekly Bulletin*.

The newsletters said the car is being developed for Chinese communes to replace bicycles, which are the normal means of transportation.

The car is reported to cost \$3.500 U.S.

Chinese visit

Two English companies recently have been visited by a high level

ministerial delegation from China.

Representatives of Hull companies Simon-Rosedowns, which manufactures edible oil processing plants, and Anglia Oils, which refines edible oil, met He Ji Hai, China's vice minister of commerce, during his recent visit to England.

"The Chinese edible oil industry has tremendous potential for

development. Simon-Rosedowns and Anglia Oils are working together on substantial and farreaching business prospects," Simon-Rosedowns Managing Drector Geoff Williamson said.

Simon-Rosedowns already has six contracts in China totalling £6 million. It currently has two sales representatives in China and two



engineers commissioning a soybean processing plant.

Biotech research

A cooperative research and development consortium of seven companies has been formed to conduct biotechnology R&D in fermentation and associated technologies.

Called Biotechnology Research & Development Corp., the organization will be located in Peoria. Illinois. The consortium, whose members are American Cyanamid, Amoco Technology Corp., Dow Chemical Co., Hewlett-Packard, Ecogen, Agricultural Research & Development Corp. (ARDC), and International Minerals & Chemical, will work closely with the U.S. Department of Agriculture's Northern Regional Research Center in Peoria and the University of Illinois' Biotechnology Center in Urbana, Illinois.

The consortium plans to spend a minimum of \$20 million for research during the next five years, with about \$10 million coming from the federal government. The state of Illinois is expected to furnish \$4 million, and the remainder will come from member companies.

The consortium was organized by ARDC, a joint venture between Cilcorp Ventures Inc. and the Economic Development Council for the Peoria area. Consortium representatives said the project would not have been possible without passage of the Federal Technology Transfer Act. That act authorizes the 380 federal labs to form research agreements with private companies and transfer resulting patents and licenses for commercial use.

Elevator blast

Five persons were killed in a grain elevator explosion April 22 that flattened four silos and an office building at the Archer Daniels Midland (ADM) Co.'s Growmark complex along the Des Plaines River at Joliet, Illinois.

The ADM grain facility handled corn and soybeans. Authori-

ties were investigating whether grain dust may have been the source of the first explosion, which ruptured a natural gas main and touched off a second blast moments later.

The complex's 100-foot tall concrete silos had the capacity to each hold about 100,000 bushels of grain.

Funds sought

The University of St. Andrews, Scotland, is seeking funding from foundations and from industry to continue its lipid research unit.

AOCS member Frank Gunstone, who received the AOCS Lipid Award in 1973, will retire from his post as professor of chemistry at the University of St. Andrews in September 1989. Upon his retirement, the university will be unable to run a unit to conduct research on the basic chemistry of fatty acids and lipids unless it is able to raise money for such work.

According to the university, there is no other university chemistry department in Britain undertaking such research.

The University of St. Andrews is seeking £100,000 a year in funds (equal to about U.S. \$180,000) for five years to cover the hiring of a research director and staff. Gunstone plans to continue to be associated with the research unit in an honorary capacity.

Anyone interested in the project can contact F.D. Gunstone, Chemistry Department, The University of St. Andrews, St. Andrews, Fife KY16 9ST, Scotland, telephone 0334-76161, telex 0334 76213, fax 0334-75851.

Residue levels

German health officials are analyzing cadmium residues in sunflowerseed and other oilseeds but are not expected to make a maximum level recommendation until next year. The U.S. Department of Agriculture (USDA) said the maximum levels may be set at 0.3 parts per million (ppm), the same standard that was issued recently for flaxseed.

The German Federal Health Agency's (BGA) Central Laboratory for Moderating Environmental Chemicals (ZEBS) issues expert opinions when it deems it necessary to protect the public health, but BGA-ZEBS residue guide values are not legally binding, USDA said. However, German food law prohibits the sale of foods that contain more than two times the quantity suggested by the ZEBS standard.

Food chairman

Daryl B. Lund has been named chairman of the food science department at Rutgers University. He replaces Nicholas D. Pintauro, who served as acting chairman after Steven S. Chang stepped down in July 1986.

Lund, whose expertise is in food engineering, served as chairman of the food science department at the University of Wisconsin before his appointment at Rutgers. He is active in the Institute of Food Technologists, the American Association of Chemical Engineers and the American Society of Agricultural Engineers.

In addition to his duties as department head, Lund also will serve as associate director of the New Jersey Agricultural Experiment Station.

News briefs

Dean A. Medford, president and chief operating officer of Ralston Purina International, has been elected corporate vice president of Ralston Purina Co. He will continue to be responsible for the overall operation of Ralston's animal feeds and consumer pet and human foods businesses in 14 countries outside the U.S.

James R. Kirk has been named president of Campbell Soup Co.'s research and development division. The company also has created a quality assurance department headed by Arnold E. Denton, Kirk's predecessor.

Corn Products, the U.S. corn refining business of CPC International Inc., will relocate its headquarters from Englewood Cliffs, New Jersey, to the corporation's Argo, Illinois, complex.

AOCS member John E. Kinsella was scheduled to present the 1988 W.O. Atwater Memorial Lecture during the annual meeting of the Institute of Food Technologists this month in New Orleans. Kinsella is Liberty Hyde Bailey Professor of Food Chemistry and General Foods Distinguished Professor of Food Science at Cornell University. The lecture is the 20th in a yearly series sponsored by the U.S. Department of Agriculture's Agricultural Research Service.

Union Carbide Corp. and Allied-Signal Inc. have announced plans to form a joint venture combining Allied-Signal's UOP Inc. and Union Carbide's Catalysts, Adsorbents and Process Systems business. The new business will operate under the name UOP.

Kao Corp. of Japan has announced plans to establish overseas research and development facilities on Taiwan, the U.S. East Coast and in Thailand. Kao already has overseas research labs in Los Angeles, California; Berlin, West Germany; Barcelona, Spain; and Mindanao, the Philippines.

Dong Bang Corp. in Korea has introduced Korea's first soybean oil packed in Tetra-Brik packaging, according to the American Soybean Association.

The Solvent Extractors' Association of India this month will celebrate its 25th anniversary with a half-day seminar on the role of the solvent extraction industry in the vegetable oil economy of the country. The association was formed in 1963 with 40 members; today, it has 550 members representing processors, merchant exporters, plant manufacturers, regional solvent extractors and laboratories.

Former AOCS member Abdulaim Samil and his wife, Ulker, of Staten Island, New York, recently returned from Bangkok, Thailand, where he served as a volunteer with the International Executive Service Corp. Samil, a retired area production superintendent for NL Industries, was recruited to assist Bangkok Producing Merchandising Co. Ltd., manufacturer of edible vegetable oils, in various areas of operation.

Chu Ito Corp. and Zenno, a farmer cooperative, have agreed to buy Consolidated Grain and Barge Corp. of St. Louis, Missouri, for \$40 to \$50 million, according to a Japanese press report.

Cacao De Zaan B.V. of Holland now has a direct dialing system. The central number is 31 75 274472. The company's telex number is 19259; its telefax number is 31 75 288751.

The Institute of Food Technologists' Education Committee has recognized the food science program at Macdonald College, McGill University. The Department of Food Science and Agricultural Chemistry offers undergraduate and graduate degree programs.

The Alcoa Separations Technology Division has constructed a facility in Warrendale, Pennsylvania. The Thorn Hill facility will work on applications for emerging separations technology in the food, specialty chemical, biotechnology and pharmaceutical industries.

John F. Magee has been named sales manager for the Idrex pressure leaf filter. The Idrex filter, made by Zimpro/Passavant Inc., is used in the processing of edible oils and other products.

Errata

An article entitled "Chromatography" published on page 318 of the March 1988 issue of *JAOCS* incorrectly summarized a talk given by Eugene W. Hammond of United Biscuits Ltd. at a symposium on "Chromatography in the Analysis of Oils and Fats" in Liverpool, England.

The article should have said that Hammond noted that a light scattering mass detector by Applied Chromatography Systems, despite excellent sensitivity, reliability and ease of use, had the drawback of a short linear range. The Tracor 945 HPLC, however, Hammond said, is an excellent replacement for the Pye Unicam LCM2 moving wire detector for use with lipids. Hammond noted the advantages of using the 945 and said good sensitivity is obtained. "The detection limit is less than one microgram, which is comparable with the mass detector and far better than the LMC2. The 945 has a linear range of at least 1,000, although this appears to decrease slightly as the belt ages and deteriorates. The response of the 945 is similar for triglycerides of varying degrees of unsaturation," Hammond said, concluding, "After full optimization of running conditions and with regular running of reference standards, the Tracor 945 is capable of producing uncorrected data which has a high level of accuracy and reproducibility."