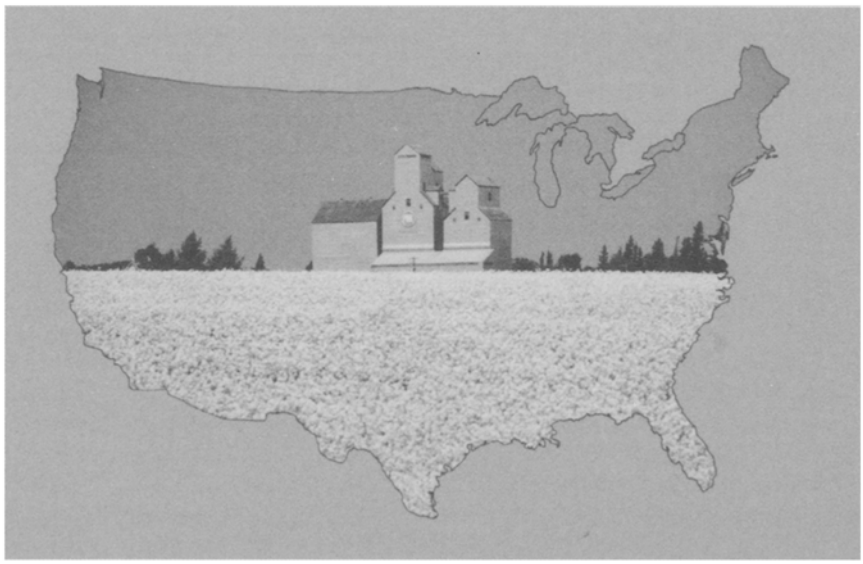

Canola

Chicken-egg dilemma not yet resolved, but long term acceptance expected

The approval of low erucic acid rapeseed oil by the U.S. Food and Drug Administration has created a potential new crop for U.S. farmers, provided a new oilseed for processors and offered a potential new ingredient for U.S. food manufacturers. JAOCS *news staffer Barbara Fitch Haumann surveyed all three groups to prepare this article on what the impact on U.S. oilseed industries may be.*

A. U.S. Food and Drug Administration ruling earlier this year allowing low erucic acid rapeseed oil, such as canola oil, in food products has resulted generally in a "wait and see" attitude by growers, crushers and food manufacturers. Industry representatives have expressed interest in canola oil, but agreed that, because there are still many unknowns, there will be little immediate impact on the U.S. fats and oils industry.

"There's very little interest by U.S. companies in using canola oil on a plant scale at this time although some companies, including ours, are doing small pilot plant and laboratory work on it," Jesse Covey of Anderson Clayton Foods said. He added, "It does look interesting to me, and I'm sure canola will be used in the U.S. The question is time, and that will depend on comparative cost."

Cargill spokesman Greg Lauser said that, while Cargill "is always looking at new options," the company has no definite plans to crush rapeseed or urge its planting. "It's a chicken or egg dilemma," he said. "There's no market now. If there's no market, why raise the crop?" Because Canadians could more economically export rapeseed than the U.S., Lauser added, it would have to be a domestic market, "and that doesn't exist yet." Lauser said Cargill officials predict it will be three to five years before there's a domestic market for the oil.

Allan E. Earl, president of the Canola Council of Canada, said that while the FDA ruling is expected to encourage the Canadian crop eventually, "in the short run we may see no growth in canola acreage." The chief reason, he explained, is the world economic situation, with Canadian farmers finding it more profitable, or secure, to raise feed grains and cereal crops.

"I don't really believe that the future will see Canada storming into the U.S. with gobs and gobs of canola oil, either. Our farmers have barely kept up with domestic demand for canola as it is and last year, in fact, didn't," he said.

Earl envisions the following. As a first step, the U.S. will import Canadian products using canola oil, such as french fries blanched in canola oil, as well as cakes and breads. As a second step, some refined oil will go into the U.S. to compete directly with other oils. Next, some Canadian seed would be processed in U.S. crushing plants, with a parallel development of more U.S. grown canola. A possible fourth step, he said, might be to have some U.S. seed shipped into Canada.

Before spring canola or low erucic acid winter rapeseed can become a commercial crop in the U.S., agronomists must develop varieties suitable to potential growing areas. U.S. farmers then must be shown they can earn as

much by growing these varieties as they can with other crops. In addition, ways must be found to process the crop to produce profitable end products.

In the past, U.S. farmers in the Dakotas, Minnesota, eastern Montana, Idaho, Oregon and Washington have grown limited amounts of spring canola and high erucic acid winter rapeseed chiefly on contract to Canadian companies, with the seed shipped to Canada.

Cliff Swartz, president of Northern Sales Ltd., a major Canadian grain exporter based in Winnipeg, said his company this year is encouraging U.S. growers to plant more canola acreage, chiefly in the Dakotas and Minnesota, and is hoping to establish trial crushings in the northern U.S.

"We have discussed this with U.S. crushers and are hopeful there will be some trial crushings this year," Swartz said. "We have for some time felt there is potential in the U.S. marketplace for canola."

Swartz said Northern Sales is introducing Swedish varieties of low erucic spring rapeseed in the U.S. this year and plans to introduce some Swedish winter rape varieties next year. "Those could mean plantings could move farther south," he explained.

"We believe the American market will pick up canola oil and use it. We also believe that a number of U.S. farmers will find this is an easier crop to handle and more convenient than sunflower," Swartz said.

Meanwhile, a U.S. grain export company, Peavey Company of Minneapolis, would like to see U.S. farmers this year grow more canola north of Fargo. "South of there, it can't take the heat. But, if more resistant varieties are developed, you'll see it grown farther south," Don Grambsch of Peavey Company predicted.

Peavey company officials see promise for canola because of its high oil content. "The world wants oil these days. It doesn't really jump through hoops for meal the way it used to," Grambsch said, adding that canola will come into the U.S. during the next 10 years, both through imports and as a domestic crop competitive with sunflowerseed and soybeans.

"Canola oil tends to trade at a discount to most other vegetable oils in the world market. If this pattern persists for the domestic market, canola oil should be able to buy a significant market share," Grambsch said, adding, "We want to encourage it. It's another ball in the air for us to handle."

Crushing Prospects

Spokesmen for companies with underutilized crushing facilities in North Dakota and Minnesota verified that canola is being considered as a potential feedstock.

"We know technically it can be done, but questions remain as to when the markets are going to be ready for the oil and when the farmers are going to plant enough," said Michael Geiger, merchandising manager with National Sun Industries. National Sun Industries operates a crushing facility in Enderlin, North Dakota, which handles safflower, soybean and sunflowerseed.

Harley E. Neshem, president of Midwest Processing Co., said he has talked with Canadians interested in supplying seed. However, Neshem said, the company's facility in Velva, North Dakota has been shut down due to poor crushing margins and inadequate supplies of sunflowerseed, and because of a contract dispute with a neighboring cogeneration facility. Even though the company is interested in canola, Neshem said, it probably will not be able to handle any until its current contract problems are resolved.

Honeymead Products, with a sunflower facility in Minneapolis, Minnesota, meanwhile, is eying possible canola processing. Its parent company, Harvest States Cooperative, has encouraged farmers in North Dakota and northern Minnesota to plant canola this year.

"The problem, however, is there are no margins to crush canola even in Canada, and we have the same problem, too, where no markets have yet been developed. Certainly there are facilities and refineries in the U.S. that could. But we're going to need our own acreage in the U.S. to make it work. Then we'll have to get the domestic buyer to use it, the American consumer to accept it. It's going to take a while. It's just not going to happen overnight," Stan Eichten, general manager of Honeymead Products, said.

Meanwhile, Continental Grain Co. is investigating processing rapeseed at its Culbertson, Montana, facility, which currently handles safflower, sunflower and mustardseed, according to Daryl Natz, assistant vice president for public affairs.

Neither Archer Daniels Midland Co. nor Bunge Edible Oil Co. would comment on canola.

Varieties Needed

There are a number of obstacles to establishing canola or low erucic acid rapeseed as a crop in the U.S. One is that canola varieties well adapted to the climate in Canada may not thrive in the U.S.

"Canola does better in the northern part of North Dakota. As you go farther south, there are more insect problems and heat damage," Bill Ball, an agronomist at North Dakota State University in Fargo, pointed out. While there were approximately 60,000 acres of rapeseed grown in the state in the late 1970s, there have been only 10,000 to 20,000 acres grown in the past several years, he said. In anticipation of a possible increase in rapeseed acreage, North Dakota has applied for a temporary label (18C) with the Environmental Protection Agency for the insecticide Furadan to control flea beetle.

Ball said agronomists are not going to push farmers into planting canola. "A lot will depend on the cash market this fall. Then we'll have some cost comparisons to work with," he said. However, he added, there may be some potential for rotating canola with wheat, barley or durum in North Dakota.

Martin Simmonds, vice president of Minn-Dak Growers Association, said growers previously have not viewed canola as a viable crop. "One of the limiting factors in increasing rapeseed production in this country is difficulty in getting a large amount of acreage for it," he explained. "Here, rapeseed is just one of many oilseeds in a saturated market. In our region, for instance, sunflowers will be the chief competition."

Simmonds added, "There is the limitation of where you can grow canola now. The varieties available are custom-bred for Canada."

However, work on new varieties is

under way. Robert Robinson, agronomy professor at the University of Minnesota, believes that hybrids for canola will be ready for testing by 1987. "Hybrid canola is now closer than hybrid sunflower was in 1970. Restorer and cytoplasmic male sterile lines are available, so canola's future looks good agronomically," Robinson said. Meanwhile, varieties are being developed at the University of Idaho in Moscow, Idaho, for the Pacific Northwest.

"We anticipate releasing two new varieties in the fall of 1986 that will be adapted for the Pacific Northwest. One will be for edible purposes and the other for industrial purposes," Dick Auld, associate professor of plant breeding and genetics at the University of Idaho, said.

Auld said climatic conditions in the Pacific Northwest are good only for winter rape (planted in August and harvested in late July or August) and not for Canadian canola varieties which are planted in the spring and harvested in the fall. "Our research shows that the Canadian canola does not do well in the Pacific Northwest but the winter annual rapeseed does," Auld said, explaining that Jet Neuf, a European variety low in erucic acid but high in glucosinolates in the meal, does well there.

Auld admitted that for U.S. rapeseed to compete in the export market, growers would have to cultivate rapeseed varieties that produce oil low in erucic acid and meal low in glucosinolates—canola-type varieties. Because winter rape varieties developed in Europe do well in the Pacific Northwest, Auld said, growers won't have to wait until his new varieties are ready.

"Barring unforeseen disaster, we see a bright future for rapeseed in the Pacific Northwest," Auld said, predicting that there will be a million acres sown in Idaho, Washington and Oregon by 1990, with the bulk of the seed exported unprocessed to Japan.

"We're gearing up to compete, in a very friendly way, with Canada for edible rapeseed," said Auld, explaining, "We sit here in the Pacific Northwest with high-oil yielding rapeseed and good waterway access to the Orient." Currently, most of Japan's rapeseed imports are from Canada via the St. Lawrence Seaway or through Vancouver.

Rapeseed has been grown in Idaho since 1938, with the winter variety Dwarf Essex being the chief type grown. Commercial oil yields in the Pacific Northwest range from 42 to 46% oil, compared to Canadian canola yields of 40 to 42% oil, Auld said.

"We see an expanding market both in industrial and edible uses," Auld said. High erucic varieties can be used in the U.S. for industrial usage.

Envisioning that Pacific Northwest growers chiefly will sell the whole seed, Auld also believes there may be small scale on-farm processing because of the high oil yields. "Farmers can get 80 to 85% of the oil through simple expulsion and leave the residual oil in the feed. They can store the oil in a container and ship it off. Currently, whole rapeseed brings 10 cents a pound, while the extracted oil brings $3 a gallon. The farmer could keep or sell the meal locally for feeding. We already have farmers interested in doing this, say through a grower cooperative," Auld said.

There are other developments to watch in the Pacific Northwest. Western Vegetable Oil Inc. of Portland, Oregon, for instance, plans to construct an oil crushing and fatty acid refining facility in Boardman, Oregon, to process high erucic acid rapeseed into methyl esters/acid and behenyl alcohol. According to Tom McGinnis, company president, plans are for the facility to handle 250 to 400 tons a day.

"We're interested in the high C_{22} varieties. Rapeseed grows well here, there is acreage available and it could serve as a rotation crop for the growers. And there's a U.S. industrial market for these products," McGinnis said, explaining that the growing region would be in the Columbia River basin, with "many thousands of acres" available.

The only vegetable oil refinery in the Pacific Northwest is a facility in Portland, Oregon. It is operated by Palmco, which re-refines imported palm and coconut oil.

McGinnis envisions that, once the company obtains the financial backing needed for the project, the facility would be constructed within a year. "This is not just a pipe dream," he said, adding that plans include changing the company name to Erucic Derivatives.

Economics Unknown

While there is some grower interest in Minnesota and North Dakota in raising canola, Richard Konzak, chairman of the North Dakota Farm Bureau's Commodity Committee, believes the economics will have to be proven.

"We still don't know the yields on the low erucic rapeseed or have the varieties suited or us," Konzak said. Konzak, who has raised high erucic acid rapeseed on contract to Canadian buyers in the past, filed a statement on behalf of the North Dakota Farm Bureau concerning the canola petition when it was before the FDA. In his statement, Konzak wrote, "We have been painfully aware for many years that our Canadian neighbors had an additional crop alternative which farmers in the United States did not have."

Canola will compete for acreage in North Dakota and Minnesota with yellow mustard, flax, sunflower and soybeans, according to University of Minnesota agronomist Robinson. "Farmers now raise yellow mustard, which yields as much as canola, except near the Canadian border. With canola selling at 11 cents a pound and yellow mustard at 15 cents a pound, yellow mustard will be the first choice until the yellow mustard market is saturated," Robinson predicted, noting that the main users of U.S. mustard are processors of table mustard, sausage and other foods.

Robinson added, "The FDA ruling is not really a godsend to the farmers, as we now have a surplus of oilseeds. But it can be good for sunflower processors with idle plant capacity. Canola represents a tremendous achievement by Canadian agronomists. The GRAS ruling for canola is mostly a window dressing. It will mean no major bonanza for our farmers. It does give us another crop alternative, another crop for diversity."

However, Robinson added, canola oil can compete with soybean oil. "If you look at the fatty acid content, canola oil has higher oleic acid content than peanut oil, a little less than olive oil, yet it is cheaper than both. Canola meal, meanwhile, is just as good as

soymeal when used on an equal protein percentage basis and is now being sold at 75% the price of soybean meal per ton. With more oil in canola than in soybeans, it should be able to meet soybean head on." In addition, he pointed out, it doesn't have the 25% waste because of hulls that sunflower does.

Canola meal already has made inroads into the U.S. in recent years. "It has come in at low prices in the Pacific Northwest to practically eliminate use of cottonseed meal there in the past two years," Joseph Smith, president of Oilseeds International, pointed out. He added, "It certainly has adversely affected people handling soybean and sunflower meal."

According to Earl, of the Canola Council, the U.S. meal market for Canadian rapeseed meal totalled 16,000 metric tons several years ago but reached 106,000 metric tons last year.

"That's a small figure compared to soybean meal produced and consumed, but it is a growing market for us," Earl said, crediting the strength of the U.S. dollar to this development.

Compiling a report on rapeseed for the American Soybean Association (ASA) as a result of the FDA ruling, ASA economist Tommy Eshleman concluded that rapeseed will pose little threat to U.S. oilseeds such as soybeans. According to Eshleman, prospects for increased rapeseed production in traditional U.S. sunflower areas such as North Dakota and Minnesota "appear to be limited due to greater profitability potential for soybeans and sunflowerseed in these states."

Eshleman noted, "Perhaps the best prospects for rapeseed production in the U.S. would be in the Pacific Northwest states, where competition from other oilseeds is practically nil."

Comparing costs of importing Canadian rapeseed products to the upper Midwest and Pacific Northwest to buying soybean products there, Eshleman concluded that rapeseed would fall short at current prices (see Table I). In the upper Midwest, only the seed would be competitive, with both rapeseed meal and oil more expensive than soybean counterparts, Eshleman said. In the Pacific Northwest, soybeans and soybean products would be more competitive. However, he acknowledged, traders in the Pacific Northwest currently can obtain rapeseed meal cheaper than soymeal since they have difficulty buying large enough quantities of soymeal to obtain the lower shipping rates he used in his calculations. "Another factor which is perhaps more important is that Canadian meal producers price their product in the Northwest to undercut soy. Such is the by-product nature of rapeseed meal," Eshleman wrote.

Using statistics from Manitoba Agriculture and the Canola Council of Canada, Eshleman concluded that canola yields higher dollar returns per acre in Canada than do wheat, barley and flaxseed. Using figures for soybeans, wheat, sunflower and barley for Minnesota and North Dakota provided by the land grant university extension service, Echleman projected that all these crops, except soybeans in North Dakota, would have higher dollar yields per acre than canola.

"Direct comparisons between crops produced in these different areas cannot be totally accurate due to yield and input differences from area to area and exchange rate fluctuations, but it does give an idea of the relative profitability among these competing crops. It would appear that rapeseed production does not hold much promise for these northern U.S. areas. In addition, current oilseed prices are being buoyed by very high vegetable oil prices, a factor which supports rapeseed more than soybeans since the former has a higher oil content. Any future realignment of this oil-meal price relationship to historical levels would drive down rapeseed prices much more than soybean prices, thus giving further advantage to soybean production in these areas," Eshleman wrote.

New Crop Obstacles

Larry Kleingartner of the National Sunflower Association does not see any incentives for farmers to take on a new crop such as rapeseed under the existing U.S. farm programs.

"It is very difficult to introduce a new crop in this country," Kleingartner said, citing the experience of those in the sunflower industry as well as his previous experience in new crop development with the North Dakota Department of Agriculture, including work with rapeseed.

"At least farmers were encouraged to grow sunflower on fallow land. Without some kind of incentive from the government, development for rapeseed will be stymied, and that doesn't even consider the marketing obstacles," he said.

A major economic obstacle for farmers in North Dakota and Minnesota, he said, is Canada's low freight rates. "It costs about $7 to $8 a metric ton to transport Canadian canola from central Canada to the coast, while we would have to pay probably $75 a metric ton from here to the coast. That would mean our farmers would have to grow it at a discount to export," Kleingartner said, adding that Canada also can move oil to the U.S. at low transportation costs. "It perhaps could be cheaper for them to export it to us than for us to grow it," he said.

Kleingartner also sees certain agronomic problems. "Rapeseed has problems from the flea beetle here in North

TABLE I

Cost Comparison of U.S. Soybean and Canadian Rapeseed Products

Comparison products	Upper Midwest		Pacific Northwest (PNW)	
	Soybean cost in Iowa	LEAR cost SB equiv.	Soybean cost in PNW	LEAR cost in PNW
Seed ($/MT)	213.46	205.21	240.96	243.92
Meal ($/ST)	127.00	138.96	152.00	171.32
Oil (Ct/LB)	29.24	33.22	30.49	34.90

Source: Tommy Eshleman, American Soybean Association economist.
LEAR: low erucic acid rapeseed.

Dakota and it is also susceptible to white mold, which affects sunflower, soybeans and edible beans. Because of that, it wouldn't be a good rotation crop here," he said. There are no chemicals developed and approved by the Environmental Protection Agency for use on rapeseed.

Kleingartner, however, did see some potential for low erucic acid winter rapeseed if varieties are developed for U.S. growing conditions. "I could see a winter rapeseed being fairly competitive mainly because it seems to be cheaper to put into the ground," he said.

Smith, meanwhile, cited work to develop high erucic rapeseed oil for industrial use that has reduced linolenic acid content. "If someone broke that barrier to remove the linolenic acid, we will probably see some growth in this area. But that's at least five years away," he said.

Smith also believes farmers may choose other mustardseeds that yield better than rapeseed and that produce similar oils. "It seems like everyone is looking for something else on the farm scene these days," Smith said.

Lee Hart, professor of agronomy at Montana State University and supervisor of the State Seed Laboratory, sees little potential for rapeseed in Montana.

"I can't see rapeseed becoming a major crop here. Rapeseed production is a low priority here. There are too many oils already available in the state, with safflower No. 1, and for good reason as it is a premium oil," Hart said. Rapeseed acreage, he said, has been less than 1,000 acres a year.

Possible Double-Cropping

Another possibility being studied is for double-cropping rapeseed varieties with other crops in the southeastern United States. Trials are being conducted in Georgia to determine how well rapeseed varieties will grow in the southeastern U.S., according to James L. Butler, manager of USDA's Southern Agricultural Energy Center, Coastal Plain Experiment Station in Tifton, Georgia.

"I was really excited in January because some of the plants were blooming. Then we had that record cold, which killed the blooms. However, the plants have recovered and are now blooming again," Butler said. The planting trials were begun in 1984, with four plantings from October through December.

"We're looking at such agronomic questions as when to plant, when to harvest, what kinds of cultural practices work best," Butler said. Research also includes the possibility of double-cropping with peanuts, corn or any of the summer crops.

Butler said three years' data should be compiled before any conclusions are made. "And then, it's one thing to show you can do it. It'll be another to sell it. We've still got to look at this crop in comparison to other crops in terms of how much money it will bring to farmers."

Butler said rapeseed appears to have such advantages as being high in both oil and protein and not needing irrigation during the growing season, but has drawbacks as well, such as needing nitrogen fertilizer as it is not a legume.

Roger Hoskin of USDA's Economic Research Service does not anticipate that rapeseed will threaten the existing crops grown in the U.S. chiefly because of a tight oil market.

"Unless there's a big price advantage for canola, I don't see much will happen, except for perhaps a little imported into the Pacific Northwest. Rapeseed is not a premium oil. There's nothing about it that would make people jump up and grab it," Hoskin said, adding, "If anything, it will take some acreage away from sunflower. But, I'd call it a non-starter. We're not exactly short of oilseeds."

Hoskin said Canadians will have to approach food manufacturers in such a way as to show that their oil is superior to others for specific uses, or offer a price advantage. "There is the problem of the tariff on imported canola oil and also the problem of user habit, both by the consumer and the manufacturers of salad oils, cake mixes and snack foods," Hoskin said.

Currently, the U.S. has an 8½% import tariff on liquid crude or refined canola oil and an 11.6% tariff on hydrogenated canola oil. These tariffs are set to decrease to 8% and 10.3%, respectively, in 1986, and to 7½% and 9%, respectively, in 1987.

Manufacturer Acceptance

Smith and Kleingartner also predicted possible reluctance to use canola. "Many U.S. manufacturers don't really know what rapeseed or canola is. It will take time to catch on," Smith said. Agreeing, Kleingartner pointed out, "We have found resistance to sunflower from U.S. companies. I'm sure rapeseed could have the same problem."

However, some U.S. food manufacturers already are familiar with rapeseed and canola oil. Kraft Inc., with a Montreal subsidiary, has many years of experience using canola in its Canadian products.

"If the oil is available and competitively priced, it will be used here. But if supply is uncertain, if quality is a problem and the price is not competitive, it won't," Thomas Applewhite of Kraft R&D said.

Certainly a drawback for canola is that it is not a premium oil, Applewhite said. "It's a good old workhorse oil like soybean oil. And it does have some problem in processing and use," he said. For example, because hydrogenated canola oil does not crystallize well, it usually is blended with palm or soy oil when used in margarine or shortening, he added.

But, according to Elton Carey of Hunt-Wesson Foods, canola oil does have some intrinsic advantages. "It has certain advantages as an emulsifier, or perhaps could be used as an enrobing fat or for specialty use. The main question, of course, in terms of substituting in products for soybean or cottonseed oil, would depend on its price," Carey added.

One favorable aspect of canola is the time and research Canadians have spent on it.

"We can take advantage of the Canadian work in processing canola," Anderson Clayton's Covey said, adding that most U.S. processing facilities that handle other oilseeds can be used for canola. "There's a little more loss in refining canola and a little more bleaching that has to be done to take the green color out, but there shouldn't be any more capital expense to handle it," Covey said.

Roy Carr, director of the POS Pilot Plant in Saskatchewan, said the not-

for-profit technology center has received some inquiries about product development for canola, "but not as many as I expected."

Carr said market development won't happen until U.S. companies obtain trial samples and experiment with it in their products, "and that will take time." The POS Pilot Plant, he said, can serve as an intermediary to provide research and development for companies interested in canola.

"For example, a U.S. company could initiate a project to see how canola can be used in a product it wants to develop. We could provide the R&D work, taking the seed and processing it through to a refined, deodorized product on a small scale. We can also test it in our margarine and shortening operation," Carr said, adding that the POS Pilot Plant maintains confidentiality for contract research.

Agro Ingredients, a vegetable oil distributor based in Des Plaines, Illinois, has been supplying samples of low erucic acid rapeseed (LEAR) oil and information sheets to U.S. food manufacturers wishing to test it for their use. "We are optimistic about the market," Joanne Sebastian, Agro Ingredients' sales and marketing representative for LEAR oils, said, adding that the company anticipates using LEAR oil in its own shortening line. Agro, already an importer of Canadian high-erucic acid rapeseed oils for industrial applications, has contracted with major Canadian producers and refiners for the low erucic acid variety.

The Canola Council's Earl said the Canadian crushing industry will be closely watching the U.S. market during the coming year to see what materializes. "Some Canadian crushers are optimistic and others don't feel we have a chance," Earl said, adding, "Certainly we are pleased with the FDA ruling. What really happened on January 28 was that the market between the U.S. and Canada became freer."

Robert Reeves, president of the Institute of Shortening and Edible Oils, said its members were also glad to hear the GRAS ruling for LEAR oil had cleared FDA. "It gives us additional options to use. But, really, since there seems to be enough supply of other oils to fill our needs, I don't expect to see an onslaught from rapeseed. There's just not a huge potential, but there is some."

Rapeseed has transformed Canada into oilseed exporter

Canada began growing rapeseed during World War II. In the 1960s, Canadians started breeding low erucic acid variety rapeseeds. By 1974, varieties containing less than 5% erucic acid comprised nearly all of the Canadian rapeseed crop. By 1978, all Canadian rapeseed oil produced for food use contained less than 2% erucic acid. The name "canola" for low erucic acid, low glucosinolate rapeseed varieties developed in Canada was adopted officially in 1980.

Allan Earl of the Canola Council said Canada imported all its oilseed needs in 1943, "but now we have become a net exporter of oilseeds and meals."

In 1984, canola oil represented 53.8% of all edible refined vegetable oil produced in Canada, with 29% represented by soybean oil, 6% by corn oil and 5% by sunflower oil.

Canada, second only to China in rapeseed production, produced approximately 20% of the world total in 1984/85. In 1984, Canada crushed 1.159 million metric tons of canola and exported 1.5 million metric tons of seed, mostly to Japan. The seed crushed in Canada yielded 42% oil, producing 490,000 metric tons. Canadians consumed a quarter of a million metric tons of oil and exported the rest. Meal produced totalled 675,000 metric tons, with 323,000 metric tons exported. The largest meal customer was the United States, which purchased 106,000 metric tons.

Rapeseed oil is consumed as an edible oil in European countries such as the United Kingdom, Sweden, France, Germany and Holland. Rapeseed currently grown in Europe as an edible oil source contains less than 5% erucic acid.

The principal fatty acids in low erucic acid rapeseed (LEAR) oil are palmitic acid (2.5 to 6%), oleic acid (50 to 66%), linoleic acid (18 to 30%) and linolenic acid (6 to 14%). LEAR oil can be used as a salad or vegetable oil, but usually is blended with other vegetable oils in producing margarine, shortening, salad and vegetable oil.

According to Alan Holz of USDA's Foreign Agricultural Service, rapeseed represents a substantial percentage of the total oil consumed in rapeseed producing countries and currently represents 11.3% of the oil consumed on a worldwide basis.

"World oil production is 45.6 million metric tons, while rapeseed is 5.13 million metric tons. In the last few years, it has been growing. For instance, in 1980-1981, only 3.98 million metric tons of rapeseed oil was consumed, of a total 39.46 million metric tons of vegetable oil. It is growing, and represents a growing proportion of the total world oil figure," Holz said.

High erucic acid rapeseed oil never has been allowed as an edible oil in the U.S. In 1977, FDA affirmed as generally recognized as safe (GRAS) fully hydrogenated and superglycerinated fully hydrogenated rapeseed oils containing less than 0.1% erucic acid. As a result, some amounts of hydrogenated rapeseed oil without erucic acid were allowed into the U.S. for use in peanut butter and some cake mixes.

In January 1985, FDA affirmed LEAR oil containing 2% or less of erucic acid and partially hydrogenated rapeseed oil as GRAS in food products. No provisions were adopted for its use in infant formula in the U.S., however.

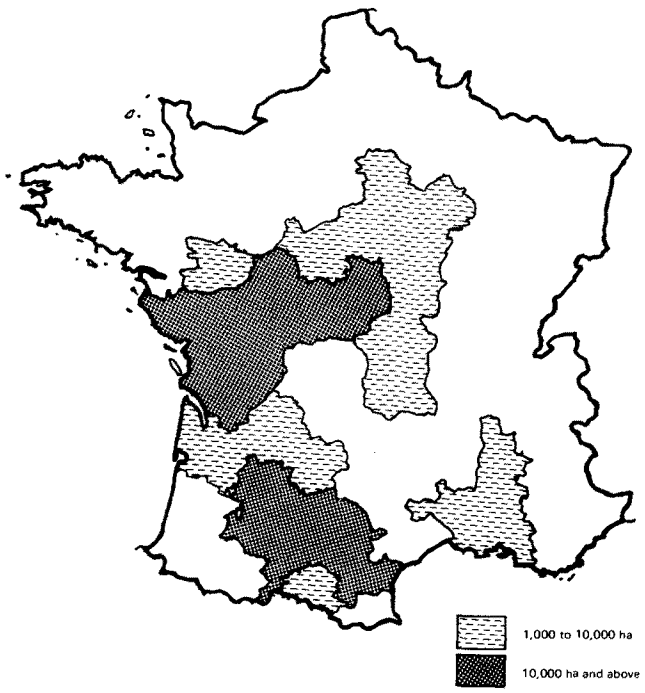

Fig. 1. Major sunflower growing regions in France.

New French processing unit

Construction of a 180,000 metric tons a year sunflower crushing facility in France's west central sunflower belt has been approved by the French Ministry of Industry and Trade and the Ministry of Agriculture, according to reports from the U.S. agricultural counselor in France.

The plant would produce about 78,000 metric tons of sunflower oil annually and 65,000 metric tons of sunflower meal, with refining capacity to yield 58,000 metric tons of refined oil annually, the report said. The plant would produce decorticated meal.

The new plant would enable France to reduce sunflower product imports as well as process more of its domestically grown sunflower. Until recently, European crushing finances made it more economical to export sunflowerseed from France to Germany or The Netherlands for crushing.

Current crushing capacity in France for all oilseeds is about 1.5 million metric tons. Thus, the plant will increase total crushing capacity more than 10%. France's 1985 oilseed production is forecast at 2.0 million metric tons of sunflowerseed and rapeseed.

Construction cost is estimated at US $23 million. Two organizations identified as partners in the proposed plant were the Union of Oilseed Cooperatives for Central-Western France (UCEOL) and University Seeds and Oil Products (USOP). The two organizations have formed the firm "Societe Centre-Ouest Oleagineux" to build the plant.

The facility will be the first large sunflowerseed crushing plant in France's major sunflower growing region. Other plants are located to the north and the southwest and initially were built for rapeseed crushing. France's only crushing facility strictly for sunflower is in east central France.

Test weight change misfires

University of Illinois agricultural economics professor Lowell Hill, whose research led him to conclude that test weight is not a valid indicator of soybean value, predicted in mid-April that a USDA Federal Grain Inspection Service (FGIS) proposal to delete test weight from soybean standards would not be adopted because foreign buyers had not been consulted before the proposal was made.

"FGIS should have worked with buyers on this issue first, asking them which they'd rather do, pay for a test on weight or pay for a test determining oil and protein content," Hill said. Instead, the proposal was made without buyer input and without offering alternative options, such as tests for protein and oil content. "It created a credibility gap from the foreign buyers' standpoint," Hill said, noting the protests from Asian and European buyers who saw the proposed action as a lowering of U.S. soybean standards.

The action, Hill said, "was a very poor way to make friends and influence people in a market where we need all the help we can get."

Michael Phillips, director of market development for the American Soybean Association, acknowledged that a number of circumstances had prompted an outcry from foreign buyers of U.S. soybeans.

"During the last several years, the quality of U.S. soybeans has been somewhat stressed by weather conditions," Phillips said, pointing out that FGIS action in September 1984 to delete moisture content from U.S. soybean standards, effective in September 1985, and the proposal to eliminate test weight, aggravated buyers' concerns. "The crop for export last fall was stressed. Many of our customers associated this with the changes in standards. It was probably the worst case of timing imaginable," Phillips said.

He said the ASA would like to see soybean standards which include only factors important to the economic value of soybeans, namely the yield of oil and protein. "We want to work with our foreign customers, not to debate the issue, but together to produce a better quality product, to look at what is needed by the buyers and determine if they are willing to pay a premium for more oil, more protein content. Currently, breeders choose a variety based on its yield in bushels per acre. There's no incentive for farmers to raise soybeans that have higher protein or oil yields."

Hill said he was working on a proposal for the state of Illinois and foreign buyers to consider writing contracts specifying premium prices for desired oil and protein content. "Currently buyers pay the same price for lower oil content as they do higher oil content," Hill said.

An FGIS spokesman said a final rule on the proposed deleting of test weight from the soybean standard was expected to be published in the *Federal Register* in late April or early May.

NIOP elects Mogerley

Albert F. Mogerley of Hohokus, New Jersey, president and chief executive officer of the Port Newark-based Hudson

Tank Terminals Corp., has been elected president of the National Institute of Oilseed Products. Other officers elected are Susan Tan Luo of Uni Oil Trading Co., Alamo, California, first vice president; R. L. Fleming of Capital City Products, Columbus, Ohio, second vice president, and Grove Bryant of Petromark, Richmond, California, secretary-treasurer.

Shamrock eyes Central Soya

Shamrock Capital, a limited partnership, announced on April 1 its intention to acquire Central Soya Co. Inc. The general partner of Shamrock Capital is a subsidiary of Shamrock Holdings Inc., controlled by the Roy E. Disney family. Limited partners are indirect subsidiaries of Transcontinental Services Group N.V., the Netherlands Antilles, and J. Rothschild Holdings PLC, London. Shamrock Capital officials have said they intend to keep Central Soya's headquarters in Fort Wayne, Indiana.

News briefs

Hartnett

Schuster

AOCS member **William J. Hartnett** has been appointed manager of pharmaceutical and fine chemical processing in the Process Design Department, Process Plants Division of Foster Wheeler USA Corporation. Hartnett, who has been with Foster Wheeler since 1967, had served as director of process engineering since 1983.

AOCS member **Gregor Schuster** was honored by his employer, Chemische Fabrik Grunau, in April for having served 25 years with the firm. Schuster initially worked on cosmetics, heading the department of application technology, and then, about 15 years ago, began to work on food additives and emulsifiers. He has published more than 70 technical papers during the past quarter-century.

D. James MacArthur has been named vice president, Fragrance & Food Ingredient Group, at Hercules Specialty Chemicals Company. He replaces Harold J. Haeffele, who is retiring after 25 years with the company.

Warren Wong has been chosen assistant technical director in the Flavor Division of Firmenich Inc.

Judith A. Pond, former deputy director of government relations for Ralston Purina, has been named public affairs director of the Federal Trade Commission. Pond was with Ralston Purina from 1972 to 1981. Before joining Ralston Purina, she was with the National Food Processors Association.

AOCS member **John B. Braunwarth**, technical director for Capital City Products, has been appointed operations manager of the Armstrong Chemical Plant.

In the oleochemicals group of Emery Chemicals, **Robert Rechtin** has been named the new market representative for North Carolina, South Carolina and Virginia, while **Gregory R. Leist** is the new sales representative for New England and part of New York state.

Harshaw/Filtrol Partnership has announced a capital spending budget of $21 million for 1985, compared with a $14 million budget for capital expenditures in 1984.