

# Mielke: Oil prices on uptrend

The following talk on the world situation and outlook for the major oils and fats was presented by Thomas Mielke, associate editor of *Oil World*, at the AOCS annual meeting in Phoenix, May 8-12, 1988.

The world supply and demand relationship has changed. We are now in a clear uptrend of vegetable oil prices, a phenomenon which began in August 1987.

First, I will outline the situation and prospects for oilseed production in the European Economic Community (EEC) after the first decisions for reform were taken in February. I will then give our *Oil World* projections on the world supply and demand of major oilseeds as well as oils and fats for the rest of this season as well as in 1988/89. The implications of the massive decline in the stocks/usage ratios deserve closer analysis.

I will conclude with a tentative price outlook for oils and fats on the assumption (probably too optimistic) of normal weather conditions in the northern hemisphere countries this summer.

## European Economic Community

The EEC oilseed regime is on its way to reform. It took a long time and substantial expenditure before politicians began to rethink and then revise the substantial subsidization of EEC oilseeds. In fact, the oilseed policy of the past 10 years

not only was extremely costly but failed to reach various aims.

First of all, the boost in rapeseed plantings by more than three million hectares during the past 10 years was only partly taken from grains. When looking at the 12 member countries, it is quite interesting to find that the combined plantings of grains, oilseeds and other industrial crops increased during the past couple of years. In other words, the expansion in oilseeds was not done on grain acreage alone but also on other areas (pastures, fallow land), with the result that the grain surplus itself was not eliminated by the boost in rapeseed.

Secondly, a social policy in agriculture cannot be made via a price support per metric ton (MT). Large farms able to produce at lower unit costs have so far benefitted most from the guaranteed price system. A new oilseed policy should reduce guaranteed prices generally and support the smaller, less-productive producers via direct income payments.

EEC oilseed production boomed dramatically by 3.5 million MT last year, approaching a record 12 million MT. Too generous guaranteed prices of 30% (or

even 40%) above actual production costs have promoted this massive surge in planting and production during the past four years. The price support in the EEC was partly close to or more than three times the ruling world market price level. Last year, exceptional weather conditions helped to boost yields far beyond previous records.

As a result, budget expenditure for the oilseed regime alone more than quadrupled during the past three years (from 0.66 billion ECU in 1984 to almost three billion last year).

But the political mood has changed. Today, politicians appear to be ready to take appropriate steps to reduce oilseed production within the next three years. They have finally realized that it makes little sense to use the taxpayers' money to support and promote cultivation of a crop sizably above production costs and at a guaranteed minimum price two or three times above the ruling world market price.

One first important step to curb expenditure in agriculture was taken during the February budgetary talks. Oilseeds suffered most as their respective maximum guaranteed quantities are far below last year's production. It was also decided to introduce for the first time open-end price cuts for overproduction. Much now will depend on the intervention price still to be decided for next season.

I consider it possible that oilseed production in the EEC will decline by 1.5 million MT within the next three years. This is on the understanding that the policymakers maintain their restrictive policy and continue to reduce intervention prices. It is particularly necessary to actually apply the price reductions to overproduction.

There may only be a marginal decline for rapeseed production next season as this year's decision came too late for winter rapeseed plantings. Additional reductions of EEC oilseed production will be possible only if the cuts of intervention prices and/or punishment for

## Oilseed Outlook

The 1988 AOCS annual meeting in Phoenix, Arizona, included an oilseed outlook session on May 9, 1988, chaired by Thomas H. Applewhite, *JAOCs* editor. Four talks from the session are published in this section of *JAOCs*. Talks and speakers were:

- World Situation and Outlook for Major Fats and Oils, Thomas Mielke of *Oil World*;
- USDA's 1988 Oilseed Production and Consumption Outlook, Philip Mackie of USDA's Foreign Agricultural Service;
- 1988 Oilseed Futures Outlook, Mario P. Baletto of Merrill Lynch Capital Markets;
- 1988 Outlook for Specialty Crops and Oils, Joseph Smith of Oilseeds International Ltd.

above-quota production are raised further. If not, actual production will probably exceed my estimates.

One has to take into consideration that rapeseed has achieved a dominant role in European agriculture, as it fits particularly well into crop rotation and can be planted and harvested with the same machines as grains. Clear price signals are necessary to lastingly reverse the trend of European rapeseed and oilseed production.

EEC net imports of soybeans, rapeseed and sunflowerseed declined sizably during the past several years, from the peak of almost 18 million MT registered in the 1979/80 season. For the current season, we expect that the EEC will even become a small net exporter of rapeseed compared with net imports of 500,000 MT two years ago.

Sunflowerseed import requirements are likely to dwindle to zero compared with a record 1.6 million MT in 1979/80. Finally, soybean imports probably will be 2.5 mil-

lion MT smaller than eight years ago.

However, the EEC, importing approximately 13-14 million MT, remains by far the world's largest importer of oilseeds. Import requirements are likely to recover if the new oilseed policy succeeds. Critics in the U.S. should remember that the EEC remains by far the largest outlet for American farmers.

Although the EEC is still less than self-sufficient for all oilseeds (taken as a group) as well as for all oils and fats, it does not make much sense to argue that a further promotion of rapeseed production, for example, is advisable as long as the EEC is less than self-sufficient for all oils and fats.

Besides the uneconomically high support costs involved, rapeseed production this season cannot be fully disposed of unless it is again dumped onto the world market via high export subsidies. It is thus possible that 0.3-0.4 million

MT of old-crop rapeseed will be carried over into next season and will result in another surplus and another rise in crushings next season, despite a smaller new crop. Quantities offered into intervention recently already reached record levels, with most of it in France and the United Kingdom (UK).

During the past four years, net exports of EEC rapeseed oil almost quadrupled from 0.2 to 0.8 million MT because skyrocketing domestic output can no longer be absorbed domestically. This season, net exports will probably slightly surpass 0.8 million MT and reach almost 40% of the total output. Prospects for next season indicate another increase of probably almost one-tenth in rapeseed oil output and net exports in the vicinity of 0.9 million MT.

A similarly interesting development occurred in sunflowerseed oil. Both production and interior disappearance have increased sharply since the early 1980s.

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## Oilseed Outlook

Again, domestic demand could not keep pace with accelerating production, thus turning the EEC from a net importer into a net exporter of more than 200,000 MT this season.

With net imports of sunflowerseed almost nonexistent and oil exports rising so sharply, sunflowerseed and oil have also become surplus commodities within the EEC.

### World situation and outlook

Burdensome surplus stocks of oilseeds already have disappeared. Adjustments in new production as well as sharp increases in demand for oils and oilmeals have brought the world supply and demand into a better and more interesting equilibrium again.

The collapse of prices well below production costs two years ago was not caused by a structural, but only a cyclical, surplus. Necessary supply adjustments during the past two years came from three corners: government programs (acreage reductions); detrimental weather conditions (India, Soviet Union, South American and elsewhere); as well as too low and unprofitable market prices, which caused farmers to reduce either inputs (and thus yields) or sowings.

On the other hand, world demand accelerated during the past three years. This was promoted by attractive prices and by special subsidized government programs for both domestic and export markets. The special butter disposal program at highly subsidized prices in the EEC as well as the various U.S. export promotion programs are two examples.

The acceleration of world demand for oilseeds, oils and oilmeals occurred in most countries, with largest growth rates registered in Soviet soybean meal demand and Chinese oil imports and consumption during the past two years.

Figure 1 clearly shows that after three years of stock accumulation, world oilseed production this season has fallen below demand for the second consecutive year. Prospects for next season indicate a further decline in world oilseed stocks even with our optimistic estimates on production.

The rapid decline of the stocks/

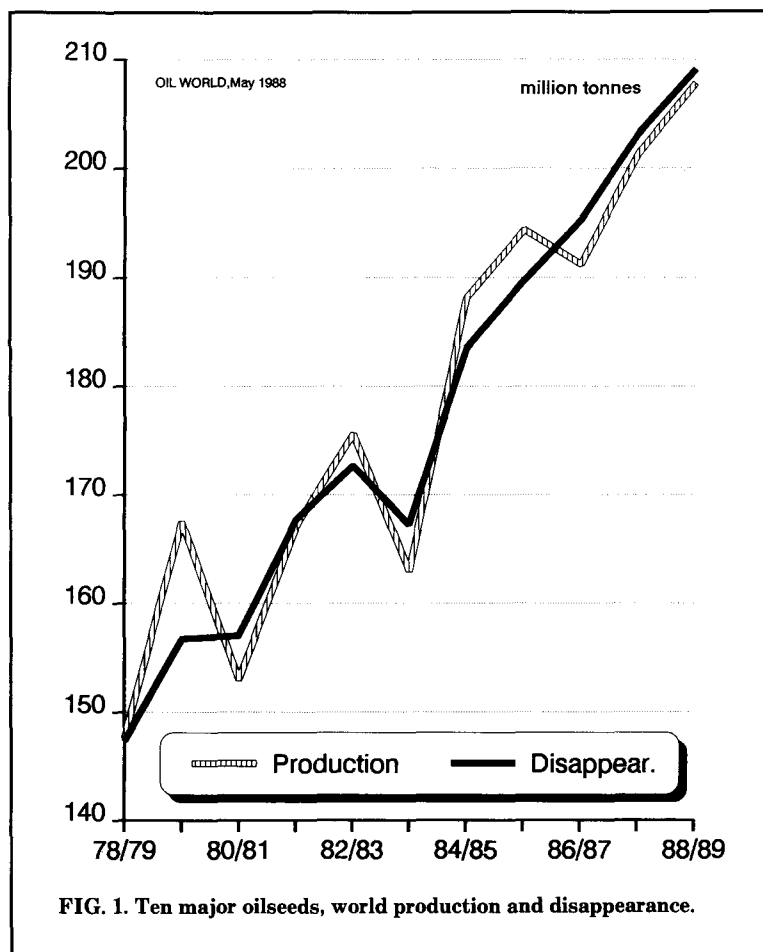


FIG. 1. Ten major oilseeds, world production and disappearance.

usage level since the autumn of 1986 demonstrates what I am talking about (Fig. 2). Stocks relative to consumption of the following season have always been a good barometer for price changes. And this barometer indicates relative tightness for the rest of this season as well as next season.

U.S. soybean stocks are likely to fall to only 290 million bushels or less this autumn and may continue to decline another 40-90 million bushels next season.

I expect supersensitive markets in the weeks and months ahead as we are approaching the critical planting, germination and growing periods in the important northern hemisphere countries. Any detrimental weather conditions may quickly spark price rallies that will spill over into oils and meals, as only insufficient buffer stocks are available.

Many scenarios are possible. We currently estimate world oilseed production to increase by 6-7 mil-

lion MT next season, with most of the expansion well distributed between soybeans, cottonseed, groundnuts and sunflowerseed. The outlook for rapeseed is less optimistic due to lower production in the EEC as well as damage and a crop shortfall in China.

The big question right now is the actual U.S. soybean area planted this spring.

Financial considerations are likely to limit the farmers' readiness to shift program crops such as feed and food grains into soybeans, although soybean prices have risen by roughly 50 cents per bushel since the planting intentions survey was made.

However, the big swing factor will be the extent of double-cropping this season and, particularly, how much of this has already been shown in the planting intentions report. Right now, I assume that the recent soybean price increases will at best bring an additional 1.5 million acres under soybeans. This

still may not be enough to prevent tightness next season.

Weather conditions have not been ideal so far this spring in many northern hemisphere countries. Too-dry weather conditions over most of the Canadian prairies, for example, could prevent the ambitious rapeseed planting program to be fulfilled and may force us to trim our optimistic production forecast for next season.

Too-dry weather conditions and soil moisture shortages also have developed over some major states of the U.S. However, it is still early in the season and if the forecast rains materialize, the situation is not at all critical yet.

### Oils and fats

The oils and fats outlook points to a significant reduction of stocks by approximately 0.8 million MT this season and another 0.3–0.4 million MT in 1988/89.

I expect higher prices ahead for oils and fats in absolute terms

and, particularly, a further recovery of the oil share of the combined product value to at least 40% from the current 34%. The constructive outlook for oils and fats is due to a number of reasons.

One is the slow growth in oilmeal demand. Deteriorated prospects for oilmeal demand are one major price-supporting factor for oils and fats. The annual change in world demand for 12 oilmeals confirms particularly sharp increases in 1984/85 as well as last season. But higher prices as well as deteriorated price relationships vis-a-vis grains are now causing meal demand to suffer a decline this season in the EEC, East Europe, Brazil, India and a few other countries.

For April/Sept 1988, our latest *Oil World* estimate points to only a moderate increase of 2.4%, or 1.5 million MT, in world oilmeal demand compared with gains of 3.4%, or 2.2 million MT, in the first half of this season and 5.4 million MT,

or 4.4%, last season. This slowing-down is obvious, particularly if compared to the boost of more than 10 million MT four years ago.

The prospects for next season point to a further slowing-down of the increase in world oilmeal demand, largely due to an additional decline in the EEC.

In the U.S., a remarkable slowing-down of demand growth next season is likely to follow a boost of 1.3 million MT this season. Deteriorated meal/grain and meal/livestock price relationships will be negative factors for domestic demand.

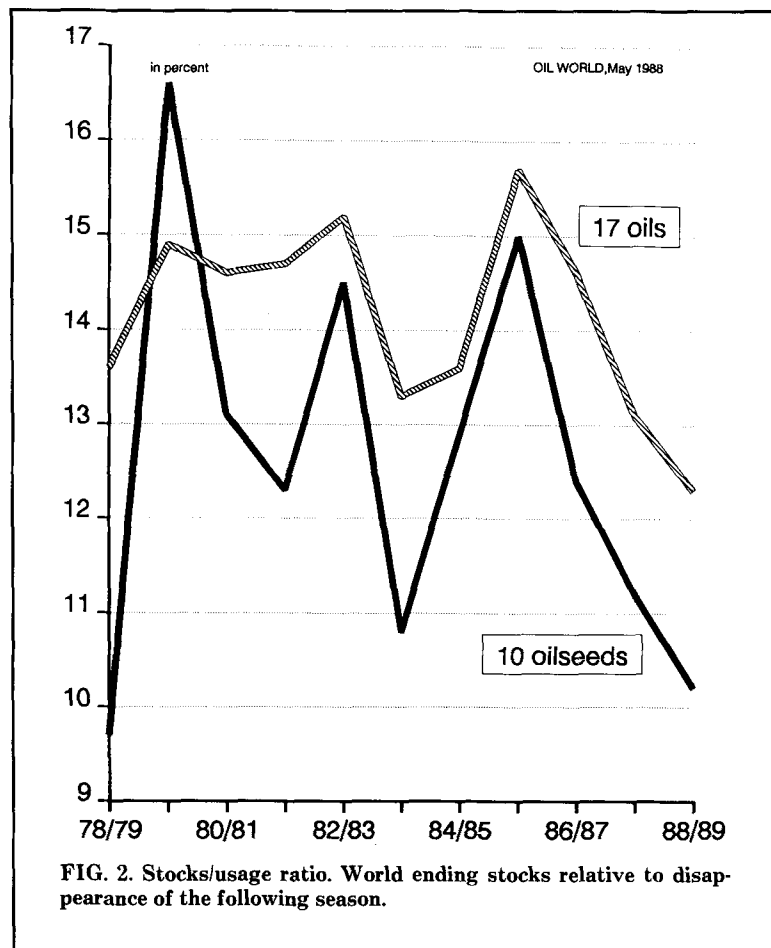
World demand for soybean meal probably will suffer most. Next season, almost all of the expected increase in total world oilmeal demand probably will be covered by five major commodities, namely cottonseed, rapeseed, groundnut and sunflower meals as well as corn gluten feed. The heavy competition from these commodities and the relatively small increase in aggregate world demand (with more than half of the increase on account of India and China where soybean meal is not number one) probably will stop and slightly reverse the recent and present increase in world consumption of soybean meal.

In the EEC, the steep increase in oilmeal demand remained intact last season, as the deterioration of the U.S. dollar more than offset the appreciation of world market prices and made oilmeals even more attractive vis-a-vis grains in national currencies.

But this positive effect is spent, at least for the time being, as the dollar has stabilized and is unlikely to decline much for the rest of the year. The higher world market prices will be felt by the European consumer and cause rationing at least in those sectors in which meals had also been fed for energy.

Soybean meal is still the dominant commodity, although its share of total consumption has declined and will continue to decline next season.

Another important swing factor is the Soviet Union. Major questions are the volume and timing of future soybean meal purchases and imports. These, however, can-



## Oilseed Outlook

not be accurately forecast. The Soviet reservedness during the past couple of weeks was (after the recent price increases) mainly a question of political decision and, above all, of financing and foreign exchange reserves.

There is no doubt the Soviets have the potential to import at least four million MT of soybean meal per year, and I am optimistic that they will continue to improve their feeding rations in the years ahead. However, the disappointing pace of purchases so far this year probably will result in a sharp reduction of imports by almost one million MT in the second half of this season.

The future meal demand is the first major determinant for the magnitude of the world supply and demand of oils and fats. Oilmeal demand will largely determine oilseed crushings, and the sluggishness in meals will be the limiting factor for world crushings and oil output for the rest of this season as well as for next season. The deteriorating situation in meals thus will be responsible for the slower growth in oil output as well as for the strength in vegetable oil prices.

Unless unexpectedly large oilmeal purchases occur from either the Soviet Union or China during the rest of this year, oils will become the price leaders.

Meanwhile, the heavy subsidization of U.S. vegetable oil exports to Turkey, India and the few blessed North African countries through the Export Enhancement Program (EEP) has exerted a major bearish influence on vegetable oils since early this year. USDA recently paid record high subsidies of close to and slightly more than US \$200 per MT, the equivalent of nine cents per pound.

Such heavy and aggressive government interference has caused various distortions in world trade. South American, European and other non-U.S. origins were forced to go down in their basis. Brazilian soybean oil and EEC rapeseed oil recently were offered at record discounts of 650 points below Chicago.

On the other hand, domestic vegetable oil prices remain high. This in turn makes South American soybean oil or European rape-

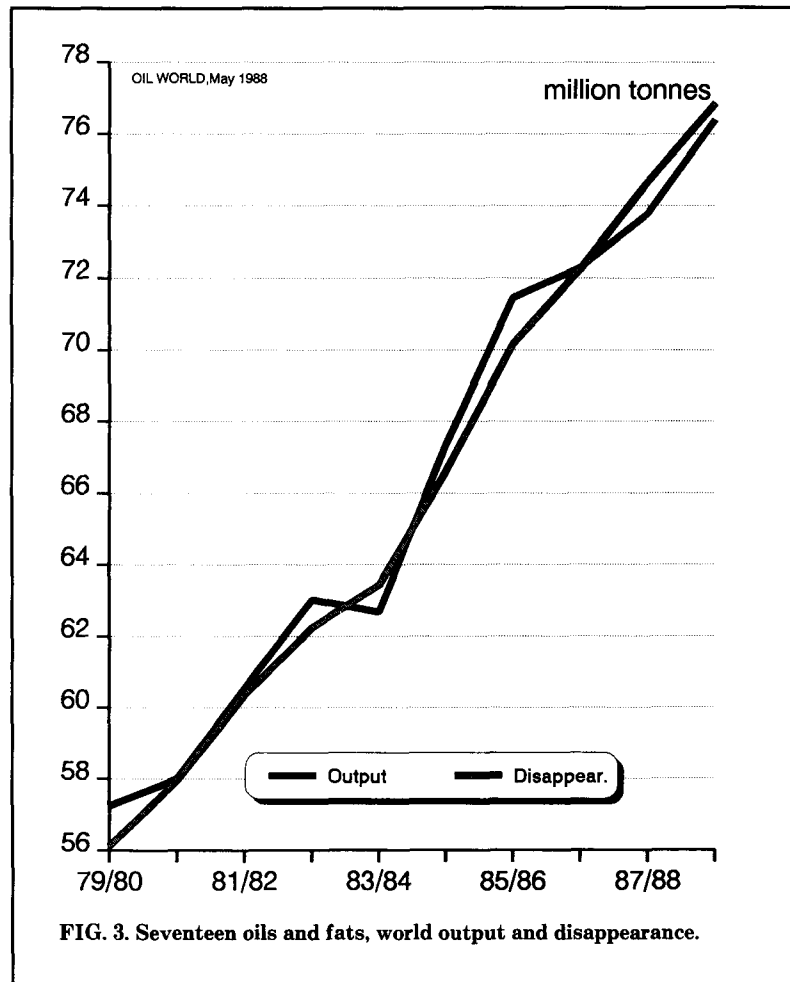


FIG. 3. Seventeen oils and fats, world output and disappearance.

seed oil competitive in the U.S., causing U.S. oil imports to rise for the rest of this year.

EEP gives the U.S. processor a comparative advantage vis-a-vis his European competitor of about \$30 per MT. While the European crusher has had to bear fully the correspondingly lower vegetable oil prices since early this year, the U.S. government is paying the subsidy instead and brings the U.S. crusher into a much better competitive position. Since early this year, crush margins in Europe have been terribly low and generally far below breakeven, while U.S. soybean crush margins have been above average. As a result, we will be facing steep declines in European soybean imports and crushings from May onward. We will get more news of crushing plants closing down for a couple of weeks, similar to the two Vamo mills in Belgium which will close for four to six weeks. Other companies such as

Cargill seriously are considering closing temporarily.

The European net export supplies of soybean oil will fall, and the meal import requirements will rise correspondingly.

EEP also promotes world vegetable oil import demand. It is not only the "donated" countries who benefit from the program. Since EEP successfully reduced the prices ruling on the world market for oils from all origins since early this year, every importing country is enjoying lower prices than normal. I am confident that the corresponding, price-induced higher import demand will largely go into consumption, causing world usage to increase more sharply than it would otherwise in the second half of this season and to at least the first half of next season.

Meanwhile, world demand for oils and fats is strong, and strong growth in world disappearance is likely to remain intact for next sea-

son (Fig. 3). It appears likely that next season's usage again will exceed new production in the third consecutive season. This should be true despite record-large palm oil output and despite the sharp increase in South American production and export supplies of vegetable oils.

Let us look at some major growth countries. China, Indonesia, Pakistan and the Soviet Union (USSR) are the growth leaders in vegetable oil consumption. In addition, the Indian government will take every step to reverse the recently declining trend in per capita disappearance and try to increase domestic oil supplies next season.

These five countries account for almost half the world population. I expect that a major portion of the future world increase in oil demand will take place here. This should be true particularly for China if the respectable economic improvements can be stabilized.

On the other hand, per capita disappearance is approaching saturation in North America and the EEC, and future growth in total oil demand will largely be limited to population growth.

In China, demand has exceeded production since 1985. The supply deficit is widening quickly, turning China from a net exporter only six years ago to one of the largest deficit countries in the world. In absolute tonnage, total oil disappearance expanded by as much as 0.5-0.7 million MT every season during the past five years. Even assuming a slowing-down, Chinese oil import requirements may be boosted by as much as 0.5-0.6 million MT next season.

In India, the consumer suffered from sizably declining domestic production during the past three seasons. Despite the boost in imports to 1.9 million MT in 87/88 (or one third of domestic disappearance), total domestic usage of oils and fats is stagnating and per capita consumption is declining for the third successive season.

For next season, I assume that India will be blessed with better rains and will be able to materially reduce imports. Of course, India will remain a major deficit country with foreign exchange as well as

port and handling facilities the major limiting factors.

Meanwhile, the Soviet government is likely to continue to import close to one million MT of oils next season even if a further slight improvement can be made in domestic productivity. Continuously large imports are required to improve the still comparatively low per capita supplies.

Pakistan is another quickly growing deficit country. With low oil-yielding cottonseed the major resource, domestic output can satisfy only approximately 40% of requirements. The country is likely to boost vegetable oil imports to one million MT, with most of it satisfied by subsidized U.S. soybean oil as well as Malaysian palm oil.

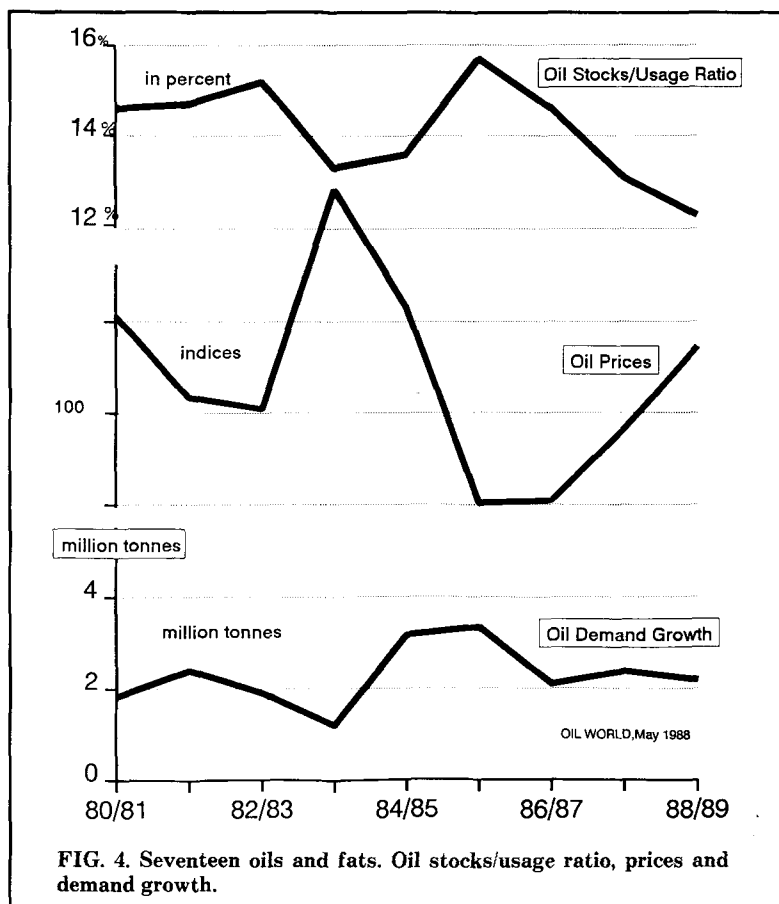
The quickly growing demand base in Indonesia is absorbing some of the sharp increase in domestic vegetable oil output. Indonesia is boosting exports of coconut and palm kernel oils this season in response to the attractive prices and price premiums on the world mar-

ket. This is partly at the expense of stocks, so that export supplies for next season may be up only slightly, despite another remarkable upswing in domestic output of palm and lauric oils.

The sharp uptrend of net imports of oils and fats of India, China, the USSR and Pakistan combined will remain intact for next season. As mentioned, government subsidies and export promotion programs are alleviating the strain of higher prices on importing countries. Net imports of the four countries have increased steeply from 3.1 million MT in 1985/86 to probably 4.65 million MT this season. Another sharp increase is likely to occur to a record 5.1 million MT next season. This should occur under the lead of China.

#### Price outlook

The medium- to long-term price outlook for oils and fats is constructive. The prospective growing deficit of world production vis-a-vis world disappearance will be one major supporting factor.



However, although the expected decline of world oil stocks will be similarly large as in the shortage season 1983/84, I would rule out a repetition of the skyrocketing prices of four years ago. The projection of less severe price rises is based on the assumption of (contrary to 1983) normal weather conditions in the northern hemisphere countries this summer. Only drought and severe yield losses in major producing countries this summer will require skyrocketing prices to curb both oil and meal demand sufficiently. Whatever happens weatherwise, we can be assured that our markets will be supersensitive, already reacting to forecasts of unfavorable weather; if it comes true, prices will run away quickly.

EEP will add to a worldwide reduction of stocks as well as to a further decline of the stocks/usage ratios of oils as well as oilseeds in the medium- to long-run. Today's bearishness and record-large basis vis-a-vis Chicago will thus tend to

support the constructive scenario toward the end of this season and next season.

From the global perspective of world supply and demand, only the net result of EEP is important, and that is an additional stimulation of world import demand and total consumption on the one hand and smaller world stocks on the other.

Of course, the bulk of the decline in stocks will occur in North America while stocks in South America, Far East Asia and West Europe may be a bit higher than previously thought.

Oils and fats are likely to be the price leaders, unless a new, large Soviet buying wave for soybean meal enters our markets. Prices of soybeans and most other oilseeds will more or less readily follow the price strength.

If U.S. soybean plantings are around 59.5 million acres and large yield losses from dry conditions can be limited, oilseeds will not become the price leaders, but simply fol-

low the price leadership of oils. Our constructive price forecast is based on the correlation of the declining stocks/usage ratio and continuously strong world oil demand (Fig. 4).

Soybean oil prices at Chicago may be able to exceed 25 cents per pound soon and approach 26 cents sometime during this summer. At the same time, I consider it possible that the current record discounts of non-U.S. origins will narrow if the USDA begins to use the EEP less aggressively, realizing that actual sales and actual exports of U.S. vegetable oil are large enough to reduce stocks sufficiently.

Whatever happens, the odds are overwhelming that the developing tightness will make trading and analyzing more interesting and challenging. Such markets will, as always, not only increase risks but offer many opportunities to those who have taken the right positions.



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# USDA's Mackie: Exports are vital

The following summary is of the talk on the 1988 outlook for oilseed production and consumption given by Philip Mackie, head of the oilseeds and products division of the U.S. Department of Agriculture's (USDA) Foreign Agricultural Service.

Speaking on the 1988 outlook for oilseed production and consumption, Philip Mackie emphasized market changes in the production and trade of oilseeds and products in the 1980s. He gave particular emphasis to the soybean sector, which is a major factor in the world oilseed complex, and noted the rising competition for U.S. soybeans in world trade (Fig. 1, Tables 1 and 2).

The farm value of U.S. soybean production peaked in 1979 at \$14.2 billion. U.S. exports of soybeans and products peaked in the 1979/80 marketing year at a level of \$8.6 billion. The value of the 1987 U.S. soybean crop was set at \$10.8 billion, with exports forecast at \$6.7 billion.

The decline in U.S. exports has been due both to a leveling off of world demand after steady increases in the 1970s and to continued increases in production by competitive exporting countries. The leveling of demand, caused by a falling off in economic growth in both developed and developing countries and severe foreign exchange

problems in several developing countries, was exacerbated on the trade side by stepped-up efforts to increase domestic production by traditional importing countries.

The brunt of these changes in market forces was reflected in the U.S. soybean sector. Between 1979/80 and 1987/88, U.S. soybean production dropped 16%, and exports of soybeans, soybean meal and soybean oil were down 10%, 15% and 17%, respectively. In contrast, soybean production in South America (Brazil, Argentina and Paraguay) increased 45% over this period, and exports of soybeans, soybean meal and soybean oil were up 38%, 116% and 196%, respectively.

Between 1979/80 and 1986/87, prices for soybeans (based on U.S. farm prices) were down 6%, while prices for soybean products (based on Decatur prices) were up 6% for meal but down 20% for oil. Prices for meal increased relative to oil prices as world oil production increased relative to meal production. World production of protein meals increased from 87.3 million tons

(44% protein basis) in 1979/80 to 108.5 million tons in 1987/88, a rate of 24%. Meanwhile, world production of vegetable oils increased from 38.2 million tons to 51.9 million tons, a rate of 36%. This relative production shift occurred as world production of soybeans increased by 8%, while world production of other oilseeds, primarily "soft" seeds relatively high in oil and low in protein content, increased 34%. In addition, world production of palm oil, now the leading vegetable oil in world trade, increased 73% over this period.

On the trade side, the trend between 1979/80 and 1987/88 has been for an increasing share of world oilseed complex trade to move in the form of products rather than seed. Soybeans currently account for 75% of world oilseed trade, 71% of world trade in protein meals, and 24% of world trade in vegetable oils. World trade in soybeans increased 6% between 1979/80 and 1987/88, while trade in soybean oil increased 30%, and trade in soybean meal increased 52%. Nearly all of this increased trade in soybean products originated in Brazil and Argentina, where government policies provide incentives to the crushing industry and stimulate the export of soybean products versus soybeans.

This shift in trade patterns also has been brought about by changes in the demand structure of importing countries. For example, European Economic Community (EEC) imports of soybean dropped two million tons between 1979/80 and 1987/88, while net imports of soybean meal increased by nearly two million tons. This change resulted from the tremendous increases in EEC production of rapeseed and sunflowerseed, which increased domestic production of vegetable oil relative to protein meal.

As a result of these shifts in trade patterns, the location of world soybean crush has shifted from the U.S. and the EEC toward South America.

There also were major changes in imports markets for soybeans

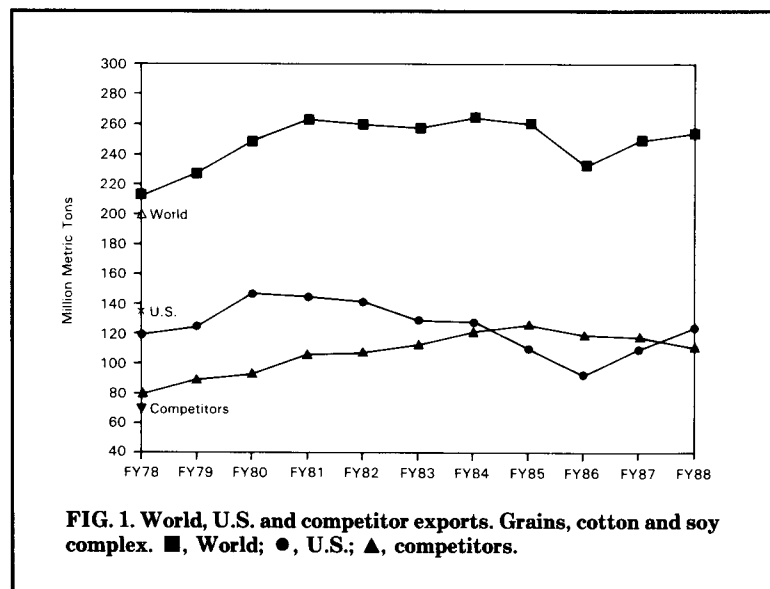


FIG. 1. World, U.S. and competitor exports. Grains, cotton and soy complex. ■, World; ●, U.S.; ▲, competitors.



TABLE 1

## World Oilseed Production (million metric tons)

	Average 1978/79- 1982/83	Preliminary 1986/87	Forecast 1987/88
<b>Soybean total</b>	<b>86.2</b>	<b>98.1</b>	<b>101.3</b>
U.S.	55.0	52.8	51.8
Brazil/Argentina/ Paraguay	18.0	25.6	28.0
China	8.3	11.6	12.1
<b>Cottonseed total</b>	<b>26.0</b>	<b>27.2</b>	<b>30.6</b>
China	5.5	6.0	7.1
USSR	4.9	4.9	4.4
U.S.	4.7	3.4	5.3
<b>Peanut total</b>	<b>17.8</b>	<b>20.4</b>	<b>19.1</b>
India	6.0	6.1	4.4
China	3.3	5.9	6.2
U.S.	1.6	1.7	1.6
<b>Sunflowerseed total</b>	<b>14.5</b>	<b>19.0</b>	<b>20.4</b>
USSR	5.1	5.3	6.1
Argentina	1.7	2.2	2.8
U.S.	2.2	1.2	1.2
<b>Rapeseed total</b>	<b>11.9</b>	<b>19.4</b>	<b>22.9</b>
China	3.3	5.9	6.7
Canada	2.7	3.8	3.8
EC-12	1.8	3.7	5.9
<b>Flaxseed total</b>	<b>2.4</b>	<b>2.2</b>	<b>2.4</b>
Argentina	0.7	0.7	0.6
Canada	0.6	0.4	0.7
India	0.4	0.5	0.5
<b>Total</b>	<b>158.7</b>	<b>160.2</b>	<b>178.2</b>

Source: Foreign Agricultural Service, Oilseeds and Products Division, April 1988.

TABLE 2

## Vegetable Oil Situation: 1986/87-1987/88 (million metric tons)

	1979/80	1986/87	1987/88
<b>World oil production</b>	<b>38.2</b>	<b>50.0</b>	<b>51.9</b>
Other than soybean	25.5	35.0	36.5
Soybean	12.7	15.0	15.4
<b>Competing oil crops</b>			
World palm oil	4.8	8.1	8.4
World coconut oil	2.7	3.0	2.7
World fish oil	1.2	1.2	1.4
Canada rapeseed	3.4	3.8	3.8
EC rapeseed	1.2	3.7	5.9
EC sunflowerseed	0.7	3.3	3.7
Argentine sunflowerseed	1.7	2.2	2.8
U.S. sunflowerseed	3.3	1.2	1.2
<b>U.S. vegetable oil exports</b>			
Total	1.816	1.000	1.685
Soybean	1.220	.538	1.000
Cottonseed	.330	.097	.159
Sunflowerseed	.086	.156	.290
Corn	.064	.121	.152
Peanut	.007	.003	.005
<b>U.S. soybean oil exports to major markets</b>			
Brazil	.076	.000	
Other South America	.179	.042	
North America	.133	.122	
India	.428	.047	
Pakistan	.147	.147	
China	.100	.000	
Eastern Europe	.004	.003	

Source: Foreign Agricultural Service, Oilseeds and Products Division, April 1988.

and soybean products between 1979/80 and 1987/88. The EEC, still the major import market for soybeans, accounted for about 45% of world trade in 1987/88. However, this share was down 10% from 1979/80. On the other hand, rapidly increasing markets included Taiwan, Korea, Mexico and the Soviet Union. For soybean meal, nearly half of the increase in world trade over this period occurred in the EEC

and the Soviet Union. India, the major importer of soybean oil in 1979/80, has moved toward palm oil, but soybean oil imports have shown steady increases in the Middle East, North Africa and Pakistan.

These changes in structure of world production and trade of oilseeds and oilseed products indicate that the soybean sector operates in an ever-changing economic

environment, Mackie said, adding, "And major changes sneak up on us."

Noting that the U.S. industry's position in the world market has declined during the 1980s, Mackie pointed out that the best prospects for future expansion, "or just maintenance of the current size of the industry," still lie in the export market.

# Baletto: Soy prices are going up

The following talk on 1988 futures price outlook and the major factors expected to affect prices in the soybean complex was presented by Mario P. Baletto of Merrill Lynch Capital Markets.

The current outlook is for higher prices in the soybean complex over the next 6 to 12 months. The soybean supply/usage balance has shifted from one of staggering surplus two years ago to one bordering on shortage. The market's pressing concern for the rest of 1988 will be on the risk of insufficient supply rather than buying more demand. This situation is expected to keep upward pressure on the prices of soybeans and products along with the potential for sharply higher prices.

The U.S. supply/usage balance for soybeans illustrates the trend

towards tighter supply (Table 1). Figures for 1987/88, the current crop year ending Aug. 31, are my estimates, while the figures for the 1988/89 new crop year represent several possible scenarios. First let's consider the old crop situation.

The expansion in usage, or total disappearance, has continued longer than expected. Stronger disappearance has been partly due to the endurance of livestock profitability, unprecedented meal exports to the Soviet Union, the Export Enhancement Program (EEP) for vegetable oils, and the lower-than-expected Brazilian soybean crop.

I expect exports to be 815 million bushels, 30 million higher than the U.S. Department of Agriculture's (USDA) April estimate. This would suggest May-August exports averaging 13% below last year's pace, a relatively steep seasonal decline. A potential negative for export prospects would be widespread downtime by European processors due to poor crush margins. At present, I am waiting to see how much of the talked-about downtime will occur and how much is offset by increased capacity utilization of the plants left in operation.

Crush will be about 1,172 million bushels, virtually the same as the USDA estimate. This would suggest a May-August crush averaging 2% below a year ago. The crush will be tailored to meet soybean meal demand. Meal export prospects could benefit from the proposed reduction in European processing activity.

Merrill Lynch currently estimates ending stocks on Aug. 31, 1988, at 265 million bushels compared with 436 million bushels last year. This represents a substantial decline of 39% from the previous year and a 51% decline from the peak level in 1986.

The ending stocks/usage ratio would be 12.8% compared with 21.3% the previous year and 28% in 1986. The stocks/usage ratio has declined to a level suggesting a relatively balanced supply/usage situation in contrast to two previous years of towering surplus. A stocks/usage ratio less than 9% would imply a tight supply/usage situation. There is no leeway for crop problems or additional increases in world demand before the U.S. balance tips into shortage.

An additional consideration is that discrepancies in USDA's December and March grain stocks reports implied a smaller 1987 crop than the 1,905 million bushels currently estimated by USDA. The implied overestimation of production could be as much as 30-50 million bushels. Adjusting for possible overestimation of supply, ending stocks

TABLE 1

U.S. Soybean Supply/Usage Balance, September-August (million bushels)

	1984/85	1985/86	1986/87	1987/88 <sup>a</sup>	1988/89 <sup>b</sup>		
					Scenario 1 <sup>c</sup>	Scenario 2 <sup>d</sup>	Scenario 3 <sup>e</sup>
Begin. stocks	176	316	536	436	265	265	265
Production	1861	2099	1940	1905	1600	1800	1900
Supply	2037	2415	2476	2341	1865	2065	2165
Crush	1030	1053	1179	1172	—	—	—
Exports	602	740	756	815	—	—	—
Feed, seed	61	60	57	59	—	—	—
Residual	30	26	48	30	—	—	—
Total usage	1721	1879	2040	2076	1795	1980	1980
Ending stocks	316	536	436	265	70	85	185
CCC	1	156	270	0	0	0	0
Non-CCC	315	380	166	265	70	85	185
Ending stocks as % of total usage	18.5	28.5	21.3	12.8	4.0	4.3	9.3
Loan rate							
Statutory	5.02	5.02	5.02	5.02	—	4.77	—
Effective	5.02	5.02	4.56	4.77	—	4.53	—

<sup>a</sup>Merrill Lynch estimate.

<sup>b</sup>Assumes planted area of 59 million acres, harvest of 57.8 million acres.

<sup>c</sup>Based on average yield of 28 bushels.

<sup>d</sup>Based on average yield of 31 bushels.

<sup>e</sup>Based on average yield of 33 bushels.

## Oilseed Outlook

could turn out as low as 215–235 million bushels, thus tilting the balance still closer to shortage.

The outcome of the 1988 U.S. crop will have a major impact on future price trends. However, it does not appear likely that U.S. supply will be able to recover sufficiently to stem the trend of tightening U.S. supply.

USDA's prospective planting intentions report indicated that farmers intended to plant 58 million acres, representing a marginal 1% increase from the prior year. Actual plantings are expected to be 59 million acres, the second lowest acreage since 1978. Even though November futures increased \$1 per bushel from early March lows, expansion is severely limited. Most additional land that could go to soybeans is locked into program bases for grains and cotton and is unlikely to be switched to soybeans. Also, continued subsoil moisture problems in the Northern Plains and inadequate moisture for double-cropping in June could limit expansion from the March intentions.

An appropriate working number for planted acreage is 59 million, with harvested acreage at 57.8 million. With favorable weather, an average yield of 33 bushels per acre would be expected, suggesting production of 1,900 million bushels. The slightest weather problems could reduce average yield to 31 bushels per acre, with production of 1,800 million bushels. A drought as occurred in 1976, 1980 and 1983 would reduce yield to around 28 bushels per acre, putting production at 1,600 million bushels. The supply/usage balance for 1988/89 outlines these three scenarios.

In the good weather scenario, supply (production plus beginning stocks) would be 2,165 million bushels. This would represent a 7.5% decline from the prior year. In the moderately adverse weather scenario, supply would decline 12%. In the drought scenario, supply would decline 20%. Even with favorable weather, U.S. supply will show a relatively large decline, which suggests strong upward pressure on prices for soybeans and products. Supply threatens to decline by over 10% with any adverse weather. For comparison, the se-

verely adverse weather years of 1974, 1976, 1980 and 1983 had year-over-year supply declines of 14%, 12%, 12% and 19%, respectively, and look what happened to prices (Fig. 1).

Preliminary forays into projecting 1988/89 disappearance suggest that at current price levels, disappearance could be 1,980 million bushels. This would be a relatively large decline of 5% from the previous year. Declining disappearance reflects higher prices of soybeans and products, increased South American supplies, increased palm oil supplies and a recovery in Indian oilseed supplies.

The level of Soviet meal and bean purchases will be critical to usage trends. My expectation is for Soviet purchases to decline moderately during May/September compared with very high levels last year. However, I expect a significant increase for 1988/89, especially if they have a good grain crop. The Soviet's protein shortage is estimated at 9–13 million metric tons (MT) of soybean meal. This would be equivalent to 18% of current total world soybean meal consumption.

U.S. ending stocks in 1989 are projected to decline for a third straight year. Even with favorable weather, the stocks/usage ratio declines to 9%, a historically low level

that tends to be associated with bull markets.

The major development for soybean oil in 1987/88 is the outlook for exports to increase dramatically to around 2,100 million pounds, almost double those of the previous year. Exports for April-September could average 50% above the prior year. A slowing of crush rates, 2% below year-ago levels, and the dramatic increase in exports along with strong domestic usage auger for a rapid decline in U.S. stocks in the months ahead. Ending stocks currently are estimated at around 1,300 million pounds, down 23% from last year. Ending stocks in 1988/89 may show a moderate decline, depending on the level of crush, which will be determined by meal demand (which is expected to remain strong) and a very uncertain export outlook.

The export outlook for 1988/89 will depend upon the willingness of the government to continue to use the Export Enhancement Program (EEP) aggressively. Exports to Pakistan could drop by over 300 million pounds in 1988/89 if they return to more normal levels. Exports in 1987/88 were inflated by large GSM102 purchases carried over from the previous year. Exports to India also could decline significantly next year if Indian oilseed yields return to more nor-

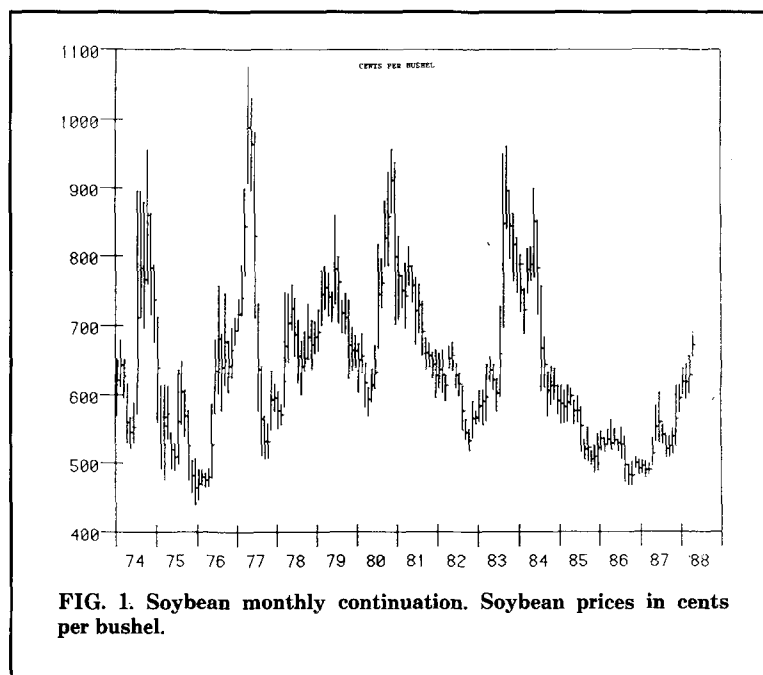


FIG. 1. Soybean monthly continuation. Soybean prices in cents per bushel.

mal levels following last year's severe drought. The expansion of EEP could help offset these declines. The Soviet Union could be targeted for EEP, with the government currently considering a National Soybean Processors' Association (NSPA) proposal to give the Soviets 270,000 MT of EEP (595 million pounds), to counter European Economic Community (EEC) subsidies on butter.

Increased use of EEP may encounter obstacles due to complaints that while it has the intended impact of increasing the cost of the ECC's oilseed subsidies, it also hurts Brazil and Argentina, forcing soybean oil prices to record discounts relative to U.S. levels. Increased use of EEP may also push U.S. soybean oil prices to such premiums relative to foreign origin oils that increased imports offset much of the increase in exports. This will depend on the willingness of major U.S. soybean oil users to resist the short-term gains that may be pre-

sented by South American soybean oil and EEC rapeseed oil.

In summary, the outlook is for higher prices for soybeans, soybean meal and soybean oil. Price action is expected to be fairly choppy due to heightened weather concerns and could become explosive if serious weather problems develop. Given a relatively favorable weather scenario, November futures prices could trade up to around the \$8 per bushel level, which would suggest December meal up to \$235-\$240 per ton and December soybean oil up to 26-28 cents per pound. Certainly, weather problems would greatly extend the upside potential.

Important factors for market direction are expected to be U.S. planted acreage, weather conditions, demand trends and market psychology. U.S. plantings of over 60 million acres would temper bullishness, while under 59 million acres would be very bullish. Weather over the major growing

areas will be critical since a relatively tight supply is likely even with good weather.

Meanwhile, demand trends, especially how exports and crush track relative to expectations, will be important. Factors affecting usage prospects will be Soviet meal demand, especially as it offsets declining meal demand in the ECC, use of EEP, trends in the U.S. dollar, palm oil production trends and profitability in the U.S. livestock economy. Soviet meal imports falling below expectations would be bearish as would be reduced EEP and higher-than-expected Malaysian palm oil production. Market psychology, especially the attitudes of speculators and farmers, is another key factor. Will speculators be attracted to traditional commodities by inflation and uncertainty regarding the financial markets? Will farmers be reserved sellers?

It promises to be an exciting and hopefully rewarding year in the soybean complex.

## Smith: Safflower supplies are low

*The following talk on the status of specialty vegetable oils was given by Joseph Smith of Oilseeds International Ltd.*

A specialty oil is one that is produced to serve a particular market that wants it because of its own, unique properties. Normally, production of a specialty is small and tailored to fit the needs of that market. Its price is determined by two things: production in a given year in relation to the total market demand for the same product, i.e., the effect of political, climatic or economic events on the size of production; and the price of other unrelated crops that may compete for the land on which the specialty is grown or if the plant grows wild, the price it takes to get people to gather it in a particular year. A specialty oil is not an oil that can be willingly replaced by other commodities just because they are lower-priced; they also must demonstrate better properties.

A specialty oil can be a specialty oil in one part of the world

and not in another. High erucic rapeseed, sesame, castor, grapeseed and rice bran oils are examples. In the U.S., rapeseed still is a specialty, whereas in Poland, East Germany or the People's Republic of China, it is an everyday commodity. A specialty market for high erucic rapeseed probably will remain in the U.S. because other areas of the world, including Poland and East Germany, are converting from rapeseed types to double zero canola types, and the high erucic material will become a specialty there as well. In West Germany, for example, users of rapeseed oil now are urging their government to authorize development of "new" rapeseed varieties because that country has converted almost totally to canola types, and the varieties grown many decades before have been outlawed.

Sesame is an ancient crop

which is usually harvested by hand because of its indeterminate flowering character. It is a preferred oil crop in Mexico, Venezuela and China, where relatively low-cost labor is available. The U.S. is the world's largest importer of sesame primarily for condiment purposes, but attempts to produce it domestically have been frustrated.

Castor beans are staple crops in India and Brazil. Prices of castor oil fluctuate wildly from year to year depending on weather conditions and waning interest in gathering the crop when prices are low. Over one million acres of castors were produced in the U.S. in the 1950s when the crop was supported by our government for stockpiling purposes. Early efforts to mechanize the crop were frustrating but eventually quite efficient, and simple harvesters were developed in company with good yielding hybrids. Once the support price was withdrawn, the castor industry refused to support the crop and they

became subject again to the whims of the market every year. I'm sure a steady price, attractive to U.S. farmers, would have produced a lower average weighted price for castor oil than the prices we've seen over the past 30 years, but greed had its way.

Grapeseed oil is an important oil in Argentina and of some importance in France and Italy. In the U.S., periodic attempts have been made to sell imported grapeseed oils. In California, we produce a lot of grapeseed, but to date, all of it is dumped with the grape skins and stems, sundried and sold as cattle feed. To establish a premium market for a grapeseed salad oil brand would be a costly undertaking in relation to the volume involved.

Large quantities of rice bran oil are produced and consumed annually in India, Japan, the People's Republic of China and other countries of Southeast Asia. Much of the rice oil produced requires excessive refining because an enzyme is released immediately upon milling that causes an exponential rise in free fatty acids unless it is heat-treated within a few hours. The U.S. Department of Agriculture (USDA) has developed a simple process for stabilizing rice bran. Although the U.S. harvests a lot of rice, most U.S. rice bran is sold for feed, but small amounts are being stabilized and exported to the Far East. There is a real opportunity for rice bran to become an important specialty in the U.S., not for its oil nor its feed value but as a defatted flour used in cereals or baked products. Defatted rice bran fits right in to the present consumer desire for high fiber foods. It has a nice blend of soluble and non-soluble fiber, it tastes good, it can be easily ground and is available in large quantities.

Specialties get much more attention than they deserve from everybody in periods of crisis such as those faced by the farming community in much of the world in recent years. At such times, the farmer looks for anything new he might grow easily that will give him a better return or at least a positive cash flow. However, most specialties are not the answer for

most farmers' problems. If most farmers grow them, they stop being specialties and become a commodity.

Some specialties are specialties because they are hard to grow, and the ordinary farmer won't take the time or can't afford the investment to grow them. Evening primrose and jojoba are examples. Jojoba takes a several-year commitment of land to develop a viable annual production (much like a tree crop does), and even then it's not clear that the producer can produce the oil at a cost below \$3 a pound in order to enlarge the market past the cosmetic and high-quality lubricant areas. I was impressed at the international jojoba conference cosponsored by AOCS here in Phoenix in January that many of the questions being asked but not answered by speakers were the same ones being asked of University of Arizona researchers 20 years ago.

Evening primrose soared like a rocket across the specialty skies a few years ago. Medical claims ranged from curing heart disease, baldness and acne to ingrown toenails, and evening primrose seed was sold for \$1.50 a pound. Evening primrose takes 13 months to mature and getting an even stand of the crop started is difficult. By the time growers had learned how to produce the crop consistently, the bloom was off the rose, and the buyers became sellers.

The specialty crop that I know best is safflower. Safflower is a very ancient crop that has remained a specialty in every country in which it has been planted for all of its 4,000-plus-year history. Safflower seeds and flowers, which dry very well, have been found in ancient Egyptian tombs. The seeds were used as beads, the oil as a lining for earthenware pots, and the florets as rouge on Cleopatra.

India is the leading producer of safflower, but most of its production is consumed locally and there rarely are large fields of safflower to be found. Often it's a border crop with only a few rows planted around the edges of a field.

Mexico grows the second largest tonnage of safflower in the world, but each year production can move up and down wildly in the

various states growing it. It's planted many times as an afterthought when weather prevents the planting of another crop.

In the U.S., the world's principal safflower exporter, production is limited both by the relatively restricted areas where it will do well and by the narrowness of the market that can afford to pay a price sometimes two or three times that of soybean oil.

In Spain and Australia, production has lagged in recent years with the advent of sunflower hybrids that are much more widely adapted to those countries' summer climates.

In China, Russia, Egypt, Afghanistan and Iran, safflower production has been small, limited by use of very old, poor-yielding, low-oil content varieties. In Argentina, the same limitations applied in the past, but this could change with the introduction recently of modern U.S. lines granted plant variety protection. However, Argentina always must be careful of some weather limitations peculiar to safflower, particularly diseases brought on by summer rains.

The U.S. market for safflower in 1988 appears promising. Prices are up substantially from 1987. In California, for example, prices offered growers for safflower seed now are \$270 a short ton on acreage contracts, whereas a year ago, about \$225 was the best a farmer could find.

Demand for safflower oil in Japan is up perhaps 100% over 1987 and in Europe at least 10%-20%. Japan classes safflower and corn oils as especially healthy oils and they are supplanting the more traditional cottonseed, soybean and rapeseed oils in the Christmas and summer gift pack seasons. Europe is going through a period of trying to buy better quality foods; "organically produced," "cold-pressed," "unbleached" and "natural" are all buzz words creating new markets for safflower oil. The principal U.S. safflower oil buyers have been reluctant to follow the trend in prices created by the Japanese and European demand, and are relying on hoped-for cheaper supplies from the northern Great Plains states.

It appears California will produce about 110,000 short tons of high linoleic safflower seed in 1988. Perhaps 40,000 tons of this total will be exported in seed form primarily to Japan for extraction, with lesser quantities to Taiwan and Europe. Three to four thousand tons will be needed for planting stocks, and the balance will be processed by four California oil mills into approximately 54 million pounds of safflower oil. Japan and Europe will consume about 45 million pounds, most of which has already been committed in forward sales.

U.S. domestic consumption is about 50 million pounds annually. Almost none of this has been covered by forward sales this season. It is too late for additional production to be contracted or planted in California. Almost none was planted in Arizona this year. Therefore, the bulk of 1988/89 U.S. domestic needs must come from the northern Great Plains or from imports.

Many parts of the U.S. West are dangerously dry this year. California had its lowest snow pack in history, most of it falling before mid-January. However, timely rains the first of March and in mid-April have produced enough moisture to bring along the 1988 California safflower crop in very good shape. Continued dry weather next fall will affect plantings of all California crops in 1989. In central and eastern Montana and western North and South Dakota, where most of the rest of the U.S. safflower crop is usually planted, very little precipitation has been received since last August, leaving subsoil moisture the driest in the last 10 years.

Growers in the northern Great Plains have the capacity to plant from 100,000 to 400,000 acres of safflower in a given year. Yields, oil content and seed quality vary greatly because of the variable conditions under which safflower must be planted—a growing season that exceeds the minimum required for safflower by just a few days, drought in some years, too much rain or hail at harvest in others, grasshoppers and diseases which are primarily associated with sum-

mer rains. This year, growers would be willing to plant at the prices offered for safflower (approximately \$170 per ton delivered to the local elevator, plus premiums for oil content above 34%). However, lack of subsoil moisture will limit 1988 plantings to summer fallow land and good yields on summer fallow will be very dependent on timely rains in May.

About 10,000 tons of seed from the Great Plains will be exported. Because of the tight moisture situation, it is doubtful if more than 30 million pounds of oil can be expected from domestically processed Great Plains seed. I would expect that everyone interested in safflower will be holding their breaths this summer and fall until the Plains crop is harvested; it's a potentially dangerous situation which could leave the U.S. dependent on imports if we experience a short-fall.

California also produces oleic safflower oil, another form of safflower. This usually occupies about 20% of California production, and this year is no exception. While Japanese buyers were the first to become interested, demand for the oleic type is increasing because of the boom in so-called Mediterranean diets and interest in monounsaturated oils. California-produced oleic safflower contains about 78% oleic fatty acid, with stability in excess of 40 AOM hours.

Oleic sunflower oil was introduced into production in 1984 in the U.S., and some was produced in France this past season. Oleic safflower was developed from seed that occurs as a result of natural mutation, while oleic sunflower was first produced in the Soviet Union by chemical mutation of normal seeds. Currently available U.S. varieties produce oleic levels between 74% and 84%.

Research within the U.S. has been limited to the efforts of one company granted a seed patent for oleic levels between 80% and 94%. Commercialization of the crop outside the U.S. in areas not covered by the patent will probably go faster, with the aim of producing oil above 70% oleic levels at prices approximately 10% higher than normal sunflower oil.

USDA's Office of Critical Agricultural Materials has listed several promising crops that could be used to lessen this country's dependence on certain imports. With the exception of guayule and kenaf, all the crops named are oilseeds: cuphea, jojoba, winter rapeseed, meadowfoam and crambe.

Crambe was investigated extensively in the 1960s. There appeared to be a demand for an oil that could deliver 55%-65% erucic fatty acid. However, crambe never was able to demonstrate that it could be produced consistently and earn enough to turn back other competing crops. It suffered from low or inconsistent yields, low test weight and a relatively high hull content requiring decorticating. The January 1988 issue of *JAACS* reported that crambe can be produced economically but lacks a market. I believe this is backward. I seriously doubt that crambe varieties have changed that much to allow them to compete in good years and bad with other crops, and this remains its principal reason for small production. Certainly, buyers can afford a small premium for the higher levels of erucic that crambe can develop or at least would buy it in preference to ordinary high erucic acid rapeseed oil at the same price if they could get it consistently. However, at those prices, crambe yields don't return enough income to the farmer.

Recently, stories have circulated that cuphea is within five years of becoming an important crop capable of offering alternate supplies of lauric fatty acids. In my opinion, it will take at least 20 years to domesticate cuphea. Introduction of the lauric-producing gene from crambe into a brassica or sunflower may be possible as well, but this also will take substantial lengths of time to accomplish.

Cuphea is a crop that sneezes its seed when rain falls on its flowers and grows low to the ground. It produces seed of light test-weight that is larger than lettuce but smaller than sesame seed, and must be harvested with a special vacuum harvester. The Soap and Detergent Association, USDA and Oregon State University have a con-

tinuing joint program under way to sponsor and coordinate cuphea research. Cuphea oil is amazingly like coconut oil, but it will take long hard work before we can realize a viable crop from this South American native.

Jojoba, meanwhile, appears destined to remain a high-priced, low-volume specialty crop here in Arizona for some time to come.

I don't know why the government's recommendation was confined only to winter rapeseed as certainly the spring types dominate in Canada. A winter rapeseed that could be grown as an alternate to winter-planted wheat would be a welcome crop in many areas. It's being tried in the U.S. in both the South and the Pacific Northwest as a source of high erucic acid. This is not a huge market, however, either in the U.S. or abroad. Canola types won't get the chance to be a specialty in the U.S.; the proximity of cheap, extensive supplies of oil from Canada or from Europe will prevent this. If it is to be produced here, it will have to make it as a commodity.

Meadowfoam is a short, native wildflower of the Pacific Northwest that has been studied for the last 30 years as a potential source of longer chain fatty acids. The Oregon Meadowfoam Growers Association has released domesticated varieties over the past 10 years, and it believes a potential market exists for 100 million pounds of meadowfoam oil as an industrial

intermediate at a 50-cent-per-pound price. A program to fund further research much like the cuphea program has been proposed.

Lupins or so-called sweet lupins perhaps are a more promising crop in terms of volume for the U.S. than any of the crops on the USDA list. Lupins are native to much of the western U.S. They don't have any toxic problems to get rid of nor do they require cooking to make their protein available. They can be handled with conventional farm equipment and seem to yield well. The oilseed types of lupin presently are poorer in yield per acre than the protein types so maybe we won't see lupin become a crop handled by U.S. oil mills. However, certainly lupins with 40% protein after only a simple dehulling process offer a significant challenge to soybean or cottonseed meals as a source of feed protein and longer-term, as a food source.

Australia produces about 900,000 metric tons from one million hectares annually. In the U.S., much of the interest has been in looking at lupins as a food source. This may come; it is almost ready now as a feed source.

I don't mean to be critical of work on new crops. We must continue this search, but we must also be careful to husband our resources. Too much of our research dollar gets wasted on programs that are politically attractive or designed to sell stock, but which are economically unsound. This requires

more planning at the national level. In recent years, the patent office and the courts have been leaning much more toward the patenting of plant and animal materials. Playing the patent game is requiring larger and larger amounts of money either to get the patent, to defend a patent or to overthrow a patent. Forcing people to go this direction in agriculture cuts down on the freedom of scientists to speak freely with each other in a meeting such as this; this produces much duplication of effort by various parties working in secret to be first with something new and makes it much harder for the single innovator or underfinanced public institution to compete.

Our legislators need to look at the entire phenomenon quickly and in depth before it's allowed to go too far. I believe a moratorium on the issuance of any further seed or animal patents is called for, so that a commission can study the problem and issue recommendations to Congress for better definitions of future patent laws. The patent law is quite short and simple in describing what can and cannot be patented. Interpreting this has become increasingly difficult. The knowledge explosion we have seen in the past 10 years has overwhelmed the U.S. Patent Office. Congress needs to give it relief in the form of more informed personnel, better ways of determining state-of-the-art, and better defined guidelines for future patent policy.

## Fats & Oils News

### China venture

Central Soya Co. Inc. has formed a joint venture with China Export Bases Development Corp. that will give the Fort Wayne, Indiana, company access to the Chinese animal feed market.

The agreement calls for the construction of animal feed and premix manufacturing plants in Weifang, Shandong Province, China. The plants are scheduled to be operational in October 1988.

Central Soya's investment will be through Jip Hong International (H.K.) Ltd., a Hong Kong trading company in which Central Soya owns majority interest. The China Export Bases Development Corp., a state-run enterprise, is the largest producer and ex-

porter of broiler chickens in China and is a large swine and shrimp producer.

The joint venture will form a new company called Weifang Zhongji Animal Feed Co. Ltd., which will manufacture complete feeds, nutritional and medicated premixes, base mixes and concentrates for sale in Shandong and other provinces, and for export.

### Philippine plant

Lu Do and Lu Ym Corp. of Cebu City, the Philippines, has announced plans to expand and modernize its coconut oil processing facility from 600 metric tons (MT) per day capacity to 1,000 MT.

The plant expansion and modernization have been