Author's Note

Following the reduction of price support levels, the soybean industry, with the help of heavily subsidized exports of cottonseed and soybean oils under Public Law 480, avoided surplus problems for several years. With a large crop in 1958, a carryover problem again developed. I wrote a rather detailed (some 7,000 words plus 10 pages of tables and charts) argument for another price support reduction. It was published in its entirety in the January 1959 *Soybean Digest*. The version here is substantially reduced. The editor asked for comments and published some of them in the February *Soybean Digest*.

The comments were about evenly divided between support and opposition. After reading many of them, I further commented, "I must confess an error in writing the price support article. Now I know I was not arguing for lower soybean supports but was arguing for no soybean supports. In the long run we need upwards of a billion bushels of soybeans. To achieve this volume during the next ten years, we must constantly keep our soybean acreage in balance. If we let soybean acreages become overextended right now and the industry falls into the clutches of the government, we will stop the long-run expansion of the industry."

Soybean Price Supports Should Be Reduced

Soybeans are in trouble. There is not a large enough market to absorb current production. We are faced with the need to find larger markets or to reduce production. This must be done now, or government inventories will be built up. The examples of other crops—corn and wheat in particular—are sufficient to prove the need for immediate action and underscore the futility of remedies taken too late or in half steps. The soybean industry should take its medicine now and should take a large enough dose to effect a cure.

The soybean markets, export and domestic, are expanding rapidly enough to absorb current production increases, and the expansion can be continued for the indefinite future. If the expanding need for high-protein concentrates is to be met, there must be further expansion of soybean production. The trouble lies with the oil fraction. Oil production has been expanded past its market size at current prices. The market for soybean oil can be expanded further only by a major reduction in price.

Soybeans must be allowed to sell at prices that will permit the continued expansion of the market for soybean meal, and that will permit oil to compete effectively with other fats and oils for the existing world market.

Soybean production in 1958 is in excess of requirements. Part of the increase in production is the result of an increase in acreage, and part is the result of unusually favorable growing conditions. The problem has been brought on rapidly because of the weather. This may be fortunate because it clearly illustrates the nature of the problem as it will likely exist in the years ahead. Production in 1958 was estimated at 573 million bushels on October 1. Seed requirements from this crop will be about 33 million bushels. Efforts may reach 95 to 100 million, leaving a crush availability of 440 million. A reasonable estimate of the potential use of meal in 1958–59 indicates a crush of 385 million bushels, leaving an increase in carryover of 45 million bushels from this crop if the very high October 1 yield estimates materialize. The yields forecast on October 1 were 3.4 bushels above the

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average of the last 10 years. Normal yields this year on the expanded acreage would have produced 492 million bushels against a projected meal, seed, and export need of 515 million.

A crush of 385 million soybeans would produce 4,235 million pounds of oil. If we allocate projected production of lard and cottonseed oil between domestic use and exports, and if we assume that domestic use of edible fats and oils per capita will remain at the same level as it has in recent years, 2,689 million pounds of soybean oil will be needed in the domestic market. This would leave 1,543 million pounds to be exported. If we take into account the projected exports of 1,737 million pounds of lard, cottonseed oil, and soybeans, a total export of 3,280 million pounds will be needed. The average for the period 1952–56 was 1,894 million pounds. In 1956–57, exports of the three totaled 2,779 million pounds, and in 1957–58 about 2,422 million.

General world conditions in fats and oils are such this year that an export of the big three at the 1956–57 record level would be a very optimistic forecast. Such an amount would result in an export of 1,042 million pounds of soybean oil and require a crush of 339 million bushels of soybeans.

On the meal side, a crush of 385 million can be used; and on the oil side, 339 million. The result of this 46-million-bushel gap will be some kind of compromise. There will be continued downward pressure on oil and upward pressure on meal as a result of the support price for soybeans. The combined value of the two must be sufficiently greater than the price of soybeans to encourage processing.

The effect of the price of oil and meal pivoting around the loan will be a smaller crush than would exist without the loan. Without a support price on soybeans, we would produce the needed meal and let the oil price decline to a point at which oil would find its way into export and into domestic inventory.

A second effect will be to push meal prices up to levels that will restrict use below the amount that would otherwise be used and to reduce the export of fats and oils.

Meal Market Expansion

Production and use of soybean meal in the United States have expanded at a very rapid rate during the past twenty years. Production of other high-protein concentrates has increased very little, and production per protein-consuming animal unit is at the same level as it was twenty years ago.

The increase in protein concentrate consumption per animal unit has been associated with a substantial and continuing increase in output per 100 pounds of feed fed. This increased productivity is especially notable in swine and poultry. Use

of high proteins has increased greatly for these two classes of animals. The use of high-protein concentrates has been stable in the production of milk and beef.[1]

Wells estimates that substantial deficits in protein still remain.[2] He estimated that in 1955 about 198 pounds of high proteins were needed per grain-consuming animal unit, and the amount fed was 133 pounds, a deficit of 33 percent. Since 1955, consumption has increased by only a small amount.

In addition to the feeding deficit at the present time, it should be expected that substantially increased amounts of protein will be needed to supply increasing livestock numbers. Population is increasing rapidly. If current per-capita consumption levels of livestock products are to be maintained and expanded, livestock numbers will need to be increased.

When we combine all three of these market growth factors (current protein deficits, increased feed grain production and inventory liquidation), our estimate of soybean meal market potential becomes fantastic. It is clear that if meal production is continued at the same rate in the decade ahead as it has in the decade ending, a shortage of high-protein concentrates will remain.

The Oil Problem

Supplies of edible fats and oils are in very troublesome abundance in the United States.

Production of fats and oils is increasing at a much faster rate than use. Production of fats and oils other than soybean oil is stable. Therefore, increasing quantities of soybean oil are needed to maintain domestic per-capita disappearance. But these increased requirements are very small in relation to the increase in soybean oil production.

The limited domestic market for soybean oil, the expanding market for soybean meal, and the fact that one cannot be produced without the other make the export market for edible fats and oils of paramount importance to the further growth and development of the soybean industry.

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1 C. M. Wells, *The Expanding Market for Soybean Meal*, University of Illinois Bulletin 620, October 1957, Tables 1 and 2.

2 Ibid., pp. 6–8.

The Export Market

Prior to World War II the United States exported minor quantities of cottonseed oil and soybean oil and major quantities of lard. At the same time the United States was a major importer of other fats and oils, particularly copra, so that on balance the country was a net importer. Following World War II and the expansion of the soybean crop, the United States became a major supplier of fats and oils for Europe. A record high was reached in 1950–51. Exports fell off during the following two years with the destocking following the Korean War and with the cottonseed oil buying program of the USDA. This buying program tended to hold U.S. oil prices above world prices, as well as generally to support world oil prices. In early 1954 the USDA initiated an oil sales program that liquidated its stocks in 18 to 20 months. This was mostly cottonseed oil. The sale of oil for foreign currency was initiated under Public Law 480 in the latter part of the 1954–55 crop year and got up to about 740 million pounds in 1957–58.

Until 1958–59 the problem of exporting the domestic surplus was solved by a dollar business of about 2 billion pounds per year and by P.L. 480 sales. The prospect that these two methods will accomplish the job in 1958–59 and the years ahead is remote. The exportable surplus production has jumped from a troublesome 2.4 billion pounds in 1957–58 to a huge 3.9 billion in 1958–59. If we assume a dollar export market for 2.0 billion pounds, a P.L. 480 export of 1.9 billion pounds will be needed to avoid an increase in the carryover of oil and soybeans. This program is 2.6 times as large as last year's. If the increase in meal use is projected to 9 percent, which appears reasonable in view of the normal market growth and increases in livestock numbers, a total export of 3.3 billion pounds will be needed.

It is quite clear that the need to increase exports of edible fats and oils is not a temporary one. The immediate problem presented by the 1958–59 situation must not be allowed to overshadow the long-term problem of increased oil exports.

Expanding the Export Market

The key to increased exports over the long term is a reduction in the price of fats and oils. Cheap oil will accomplish two things:

1. It will stop further increases in the production of competing seed oils.
2. It will facilitate increases in the consumption of fats and oils in areas of the world where per-capita consumption is low.

The areas of the world where per-capita fat and oil consumption is low and where incomes are low are also the areas that supply fats and oils in world trade in competition with U.S. exports. Oil needs to be priced cheap enough to retard competing production and make it possible for the world's poor people to afford to

consume their own production. This would enable the United States to take a larger share of the import requirements of deficit areas.

The five oils—peanut, sunflower, coconut, palm kernel, and palm—compete most directly with soybean oil. They all come from plants that are produced primarily for their oilseeds. All move in volume in world trade, and all are within the same general price range. These five oils are the ones on which price changes in soybean oil can be expected to have an effect.

Production of almost all of the different kinds of fats and oils is up from prewar. The most rapid increases have been in the group designated as competing above. In the noncompeting groups, per-capita production was 12.8 pounds prewar, 11.6 pounds in 1950, and 11.8 pounds in 1956. In the competing group, production was 8.2 pounds prewar, 8.0 pounds in 1950, and 9.8 pounds in 1956. Put differently, world production of the noncompeting groups increased by 27.2 percent from 1950 to 1956, while production in the competing group increased 58.2 percent in the same period.

The current troublesome level of world production of edible fats and oils has developed since 1950 as the result of increases in production in the competing group. Production in this group continued upward at a rate greater than population growth during 1957 and 1958. Current levels of world oil prices are encouraging increases in production at a rate in excess of population growth.

It is especially interesting to note that palm kernel and palm oil production has been increasing at a very slow rate in recent years. The potential increase in palm oil production from these sources is very great. The palm trees are growing wild, and all that is needed is to harvest and market the seeds. All that stands in the way of much greater palm and palm kernel oil production is current prices that are low enough to retard harvest and marketing.

The essential point is that production of many of the world's fats and oils is price-responsive. The most striking example is babassu. It is estimated that one Brazilian state alone has enough trees—if the oil from them were harvested—to produce 230 billion pounds, which is more than three times the current world production of all edible and soap fats and oils.

World exports are made up primarily of the group of oils designated as the soybean oil competing group. The difference between the competing and noncompeting groups becomes more striking when we take into account the large amounts of cottonseed oil exported from the United States in 1954–56 as an aftermath of the cottonseed oil buying program.

Within the competing group, exports of soybean oil, coconut oil, peanut oil, and palm oil were up in 1956 from the 1950 level, and those of sunflower oil and palm

kernel oil were down. The largest increase was in soybean oil, followed by peanut and coconut oils. Increases in world-retained production of edible fats and oils are much greater than increases in exports. That is, a high proportion of the increases in fat and oil production have been retained in the countries of production.

The significance of these comparisons is that the declining world prices of fats and oils since 1951 have caused a high proportion of the increases in production to be absorbed in the areas of production rather than moved into world trade.

What has been the effect of declining fat and oil prices since 1951? North European imports have not been affected. In that area the demand for fats and oils is extremely inelastic. The total size of the market for the world's fat and oil exports is affected only moderately by price. In southern Europe (Spain, Italy, Greece, and Turkey), consumption has been increased by price declines. Through the United States cottonseed oil sales program in 1954 and 1955 and since then through the differential pricing system of Public Law 480, prices of fats and oils have been decreased. Consumption has responded with important per-capita increases.

During the period of falling prices, imports and total supply in eastern Europe have increased. Eastern Europe and the USSR are relatively low-income, low-fat-consuming areas.

Asia is an area of low incomes and low fat consumption. The failure of Asia to regain its prewar place in world exports is associated with the availability of exports from North America. It appears likely that, without the cheaper supplies from the United States, exports from Asia would have increased during the past decade.

This review of production, use, and export indicates that the price policy of the United States needs to be directed toward preventing further increases in production of peanut, sunflower, coconut, palm, and palm kernel oils. It appears that prices during recent years have succeeded in retarding production of palm and palm kernel oils. They are too high to retard the others. These are crops that are produced primarily for their oil. There is no doubt that some price level would put production of these several crops in an unprofitable position and retard or actually decrease production.

The review also indicates that cheap oil causes indigenous production to be consumed at home rather than exported. Home demand for edible fats and oils produced in Africa, South America, and Asia is sufficiently elastic to absorb much greater than current quantities of both.

By way of further example, a 23-cent-per-bushel reduction in soybean price will cost peanut growers 72 cents for an equal weight. While it is unfortunate that we are

in a price war with peanut growers, the advantage lies on our side. If it is true that production of edible fats and oils is in excess of existing markets at current prices, there is not much doubt which commodity will win out.

Alternatives to Cheap Oil

There are alternative suggestions for maintaining U.S. oil exports. One is to expand sale for foreign currency; a second is to donate oil to charitable agencies abroad; and a third is to work out a two-price system. As short-term, one-shot operations, they are workable and have been employed with success. Whether they can be used in sufficient volume to cope with an exportable surplus of the 1958 size is questionable.

These measures will likely fail as permanent measures. The first weakness is that unquestionably they involve export dumping, and this is a practice that invites retaliatory measures that will eventually stop its effectiveness.

The sale of commodities for foreign currencies is a sophisticated dumping scheme. While the prices at which the different items are sold are nominally the same as dollar sales, the foreign currencies are not worth their nominal value. Hence prices are, in reality, reduced. This method not only differentiates between domestic and export price, but also differentiates among the prices charged to the different countries of destination. In the first place, the price is reduced only for those countries that are ruled eligible for P.L. 480 benefits. Second, the terms of the agreement vary by countries, and hence the effective price varies. Third, the different currencies have different real values so that, when all are accepted at nominal values, there are actual price differences. That the method is complicated will not permanently obscure the fact that it is export dumping.

A straight two-price system would be better than the P.L. 480 system because it would act to retard competing production and exports. But it has the disadvantage of being crude and obvious.

What Price for Oil?

There is no way to estimate the level of oil prices that would be needed to enable the United States to export all of the fats and oils necessary to bring production and use into balance. Clearly, it is a price substantially lower than that of recent years. The guiding principle is to set the support price on soybeans low enough to give oil substantial downside room. The hour is late. Had we acted three or four years ago, there would have been time to experiment. Getting the support price too high gets the crop into trouble. Putting the support price below the equilibrium price has not proved harmful in the past—a support is not a ceiling when there is no surplus, as has been repeatedly shown in the case of soybeans.

During the 1957–58 crop year, the average price of soybean oil, tank cars at midwestern mills, was 10.8 cents per pound. A 20 percent reduction would be 8.6 cents. A 25 percent reduction would be 8.1 cents. A support price for soybeans, low enough to permit 8 cent oil is a good point of departure.

What Price for Soybeans?

The support price of soybeans should be set low enough to permit 8 cent oil, $45-per-ton meal, and a processing margin wide enough to call forth a large crush. In 1957–58 soybean meal averaged $53 per ton in bulk at Decatur. With lower feed grain prices and lower livestock prices (particularly for hogs), $45 appears to be a price that will permit maximum meal market expansion.

At 8 cents, the oil fraction of a bushel of soybeans is worth 88 cents, and at $45 the meal fraction is worth $1.06, for a total of $1.94. During 1957–58 the difference between track price in Illinois of No. 1 soybeans and product values computed in the above way averaged 24 cents. During the period October 1952 to September 1957, the average difference was 15.5 cents. Say that 20 cents is allowed. For No. 1 soybeans this is a track price of $1.74 or a farm price of $1.69. The national average support price is currently 6 cents below the Illinois support price. The national average support price would thus be $1.63, scaled off for lower than No. 1 quality.

A reduction of 46 cents per bushel in the support price appears drastic. But it is justified because the situation is drastic. Very soon decisions are going to be made that will determine whether soybeans are going to return to being a commercial, competitive crop or whether they are going to become wards of the government. By historical standards a reduction of 46 cents in soybean supports has a fortunate precedent. In 1953 the support price was $2.56; in 1955 it was $2.04. The expansion in the soybean crop during the past five years was made possible by this reduction.