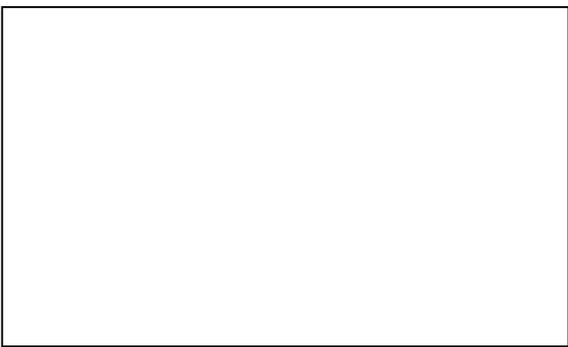


22711



National  
Foreign  
Assessment  
Center



~~Secret~~

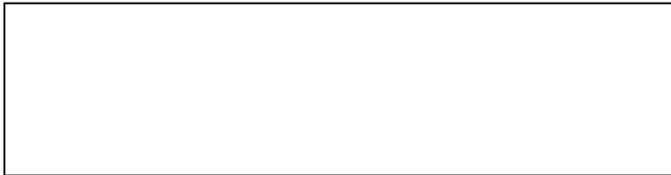
# USSR: The 1980 Crop Shortfall

An Intelligence Assessment

~~Secret~~

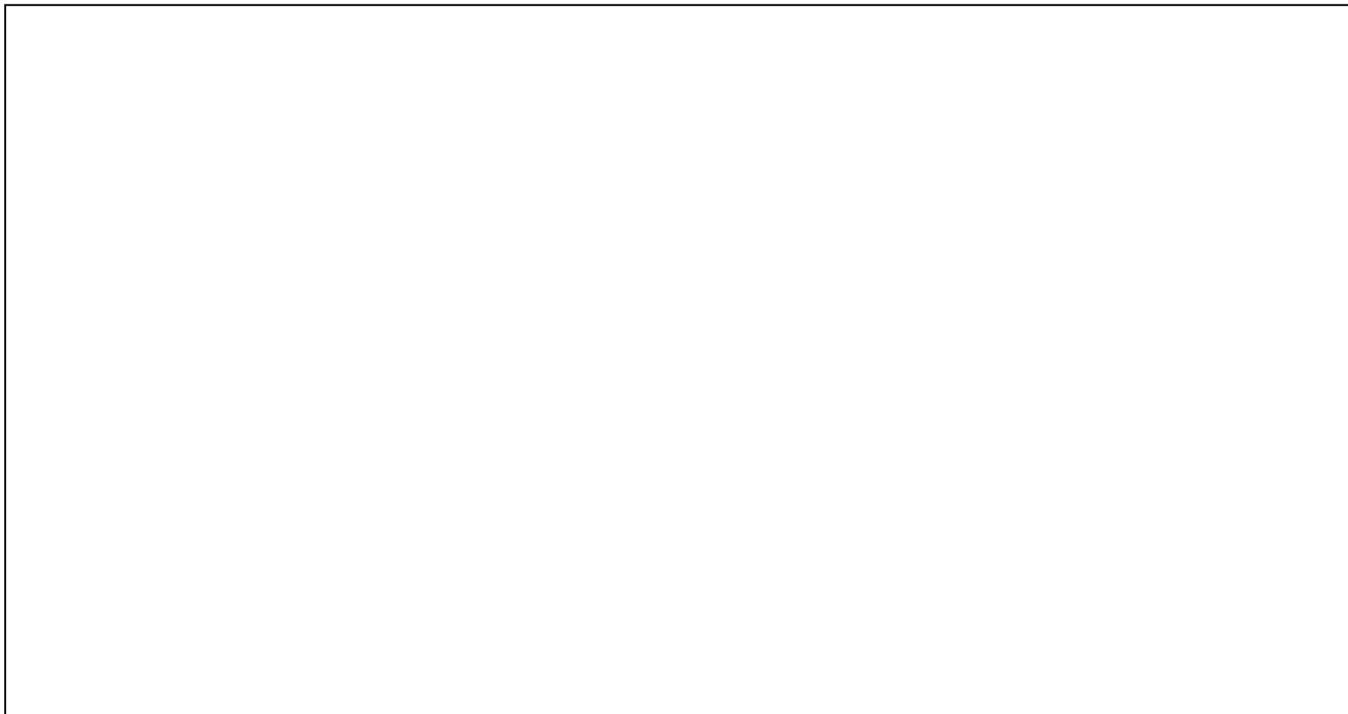
GS 80-10211  
ER 80-10635  
December 1980

Copy 171



**National Security  
Information**

**Unauthorized Disclosure  
Subject to Criminal Sanctions**





National Foreign Assessment Center

~~Secret~~

# USSR: The 1980 Crop Shortfall

An Intelligence Assessment

*Research for this report was completed on 2 December 1980.*

This assessment was prepared by the [redacted] Office of Geographic and Societal Research, and the [redacted] Office of Economic Research. Comments and queries are welcome and may be directed to the A [redacted] [redacted]

This paper was coordinated with the National Intelligence Officer for the USSR and Eastern Europe. [redacted]

~~Secret~~

GS 80-10211  
ER 80-10635  
December 1980

BLANK PAGE

USSR:  
The 1980 Crop Shortfall

Key Judgments

For the second consecutive year, the USSR has suffered a substantial grain shortfall. A statement in late October by economic planning chief Baybakov implied a total grain harvest of roughly 180 million tons, far below the 235-million-ton Plan for 1980.  and additional official data on production in the three major grain-producing republics, together with indirect evidence for other areas, suggest a total production of roughly 185 million tons.

Prior to the Baybakov report there was no clear indication that the 1980 grain harvest would be a disaster. Until mid-October, several top Soviet officials claimed that this year's harvest would be up considerably from the poor 1979 crop. In early October, the CIA and the US Department of Agriculture both estimated total USSR grain output at 205 million tons—less if autumn weather conditions deteriorated further. Since that assessment,  has confirmed the worst, giving weight to Baybakov's announcement.

With the exception of cotton—which has surpassed last year's record output—production of all major crops is down. The harvests of potatoes and sunflower seeds are expected to be the worst since the early 1960s. Production of sugar beets and vegetables will drop back to the level of the mid-1970s. Supplies of forage crops are only slightly better than last year and below 1978 levels.

Moscow will be unable to fill a grain deficit of 40-50 million tons from imports and stocks. We estimate that a combination of the US embargo, transportation constraints, and tight world supplies will restrict total Soviet imports of grain to about 31 million tons (excluding rice) in the marketing year July 1980 through June 1981. The USSR also will import 2-3 million tons of soybeans, soybean meal, and manioc.

Even if more grain became available, it would be difficult for Soviet ports to handle it. Because of greater use of small ships and rail transport bottlenecks, real port capacity in 1980/81 will fall below the estimated annual norm of 36 million tons.

In addition to grain imports, the Soviets will have to adopt other measures to cope with the 1980 grain shortfall. Meat purchases are expected to top previous records. Livestock inventories are likely to be reduced, although available data suggest that distress slaughtering has not yet begun, at least to any appreciable degree.

~~Secret~~



Soviet expenditures of hard currency for agricultural products—including grain and meat—will reach a new high in 1981. We estimate that hard currency costs for major agricultural products in 1980 will total \$8.6 billion—up from \$5 billion last year—and could approach \$12 billion in 1981. □

~~Secret~~

## USSR: The 1980 Crop Shortfall [ ]

### 1980 Grain Production

The USSR has suffered a substantial grain shortfall for the second consecutive year. On the basis of [ ] and announcements by Soviet officials, we now expect final 1980 grain output to be 185 million tons. (The US Department of Agriculture also estimates grain production at 185 million tons.) A crop of this size would be only a slight improvement over last year's poor crop of 179 million tons and far below the 235-million-ton Plan for 1980. [ ]

### Acknowledging the Shortfall

On 21 October, Party Secretary Brezhnev told the Central Committee that the average annual grain production during the Tenth Five-Year Plan (1976-80) would be "more than 200 million tons." (Because production in the first four years averaged 209 million tons, Brezhnev's statement would arithmetically allow for a crop as low as 164 million tons). On 22 October, economic planning chief Baybakov put average grain production during 1976-80 at "12 percent higher" than the average for 1971-75, suggesting a 1980 crop of roughly 180 million tons. [ ]

Both statements were based on preliminary data; at the time, 6-7 million hectares of grain probably remained to be harvested. Moreover, rounding errors in the figures cited by Baybakov could change the calculations for 1980 by as much as 5 million tons. Subsequently released production data for the three major grain-producing republics—the RSFSR, Ukraine, and Kazakhstan—indicate a yield of approximately 168 million tons for these regions. Should grain production in the remaining 12 republics come in at roughly 17 million tons (somewhat below average) total output would be 185 million tons. Even if production in those republics is somewhat higher, final Soviet grain output probably will not surpass 190 million tons. [ ]

### Change in Outlook

Prior to the Brezhnev and Baybakov reports there was no clear indication from Soviet sources that the 1980 grain harvest would be unusually poor. Indeed, pub-

lished Soviet data on crop yields and state grain purchases suggested average or above-average production. Until mid-October, several knowledgeable Soviet officials were calling for a reasonably good crop. Senior *Eksporthleb* officials reportedly told a [ ] that the harvest would be around 200 million tons, and Minister of Agriculture Mesyats referred to a "relatively good harvest" under very difficult weather conditions. Mesyats added firmly that the crop "would not be a disappointment" and would be up considerably from the harvest of a year ago. [ ]

Based largely on favorable soil moisture levels, CIA's early summer estimate of Soviet grain production allowed for a harvest as great as 220 million tons, substantially larger than the average annual output of the 1970s. As a rule, precipitation is the principal factor limiting grain production in the USSR. In 1980, rainfall was greater than normal almost everywhere. Except for a brief period at the close of July, the usual transition to drier summer weather never occurred over much of the European USSR. In several important grain production areas of northern European Russia, rainfall was two to three times normal throughout the growing season, with several weeks of virtually no sunshine. As the crop season progressed, the continually wet conditions began to threaten an adverse effect on the grain harvest. The CIA estimate was reduced accordingly, standing at 210 million tons in August. [ ]

By early fall, it became apparent that the potential harvest losses due to continued wet weather outweighed the favorable aspects normally associated with high soil-moisture levels during the early growing season. In late September, based largely on harvest problems observed in the northern European USSR, we further reduced our estimate of total grain output by some 5 million tons, to 205 million tons and pointed to an even lower harvest if persistent rains continued to interfere with the already delayed harvest. (In early

Million Metric Tons

Table 1

USSR: Agricultural Production

|  | 1971-75<br>Average | 1976         | 1977         | 1978         | 1979         | September 1980<br>Estimate | Current 1980<br>Estimate |
|--|--------------------|--------------|--------------|--------------|--------------|----------------------------|--------------------------|
| <b>Total Grain Production <sup>1</sup></b> | <b>181.6</b>       | <b>223.8</b> | <b>195.7</b> | <b>237.2</b> | <b>179.2</b> | <b>205</b>                 | <b>185</b>               |
| Wheat                                      | 88.9               | 96.9         | 92.2         | 120.8        | 90.2         | 105                        | 95                       |
| Barley                                     | 43.3               | 69.5         | 52.7         | 62.1         | 47.9         | 53                         | 46                       |
| Rye  | 11.5               | 14.0         | 8.5          | 13.6         | 8.1          | 11                         | 10                       |
| Oats                                       | 14.8               | 18.1         | 18.4         | 18.5         | 15.2         | 15                         | 14                       |
| Corn                                       | 10.2               | 10.1         | 11.0         | 9.0          | 8.4          | 9                          | 8                        |
| Other <sup>2</sup>                         | 12.8               | 15.1         | 13.0         | 13.3         | 9.4          | 12                         | 12                       |
| <b>By Republic</b>                         |                    |              |              |              |              |                            |                          |
| RSFSR                                      | 102.9              | 127.1        | 108.6        | 136.3        | 91.8         | 116                        | 103                      |
| Ukraine                                    | 40.0               | 44.6         | 48.6         | 50.6         | 34.0         | 44                         | 38                       |
| Kazakhstan                                 | 21.7               | 29.8         | 17.7         | 27.9         | 34.5         | 24                         | 27                       |
| Other                                      | 17.0               | 22.3         | 20.8         | 22.6         | 18.9         | 21                         | 17                       |
| <b>Major nongrain crops</b>                |                    |              |              |              |              |                            |                          |
| Potatoes                                   | 89.8               | 85.1         | 83.7         | 86.1         | 91.0         | 85                         | 75                       |
| Sugar beets                                | 76.0               | 99.9         | 93.1         | 93.5         | 76.2         | 85-90                      | 75                       |
| Sunflower seeds                            | 6.0                | 5.3          | 5.9          | 5.3          | 5.4          | 5.4                        | 4.5                      |
| Vegetables                                 | 23.0               | 25.0         | 24.1         | 27.9         | 27.2         | 25                         | 25                       |
| Cotton                                     | 7.7                | 8.5          | 8.8          | 8.5          | 9.2          | 9.2                        | 9.9                      |

<sup>1</sup> Because of rounding, components may not add to totals shown.  
<sup>2</sup> Including millet, buckwheat, rice, pulses, and miscellaneous grains.

October, the USDA also reduced its estimate to 205 million tons.) [redacted] confirmed the worst prognosis. The harvest was a major disaster; even with massive attempts to hand harvest the grain, large areas remained unharvested and were undoubtedly abandoned with the onset of winter. In those areas where the grain crops were flattened, a significant portion was not harvested despite special pick-up devices fitted to the combines. [redacted]

Much of the discrepancy between Western grain forecasts made during the 1980 crop season and the poor harvest totals recently announced is due to these abnormally large harvest losses, particularly in the northern European USSR. Early estimates for major

grain-producing areas less affected by late season rains—Kazakhstan and parts of the Ukraine, the North Caucasus, the southern Urals, and West Siberia—are supported by announced production data. [redacted]

**Other Major Crops**

With the exception of cotton, production of the other major crops is down. Sowing was delayed by two to three weeks in the spring, and cooler- and wetter-than-normal weather during the growing season generally retarded ripening. Yields of vegetables, sunflowers, and sugar beets will be below average, with the outlook for potatoes probably the worst since the early 1960s. By contrast, unusually favorable weather has fostered



~~Secret~~

---

**USSR: Harvest Difficulties**

|  |  |
|--|--|
|  |  |
|--|--|

|  |  |
|--|--|
|  |  |
|--|--|

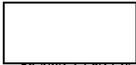
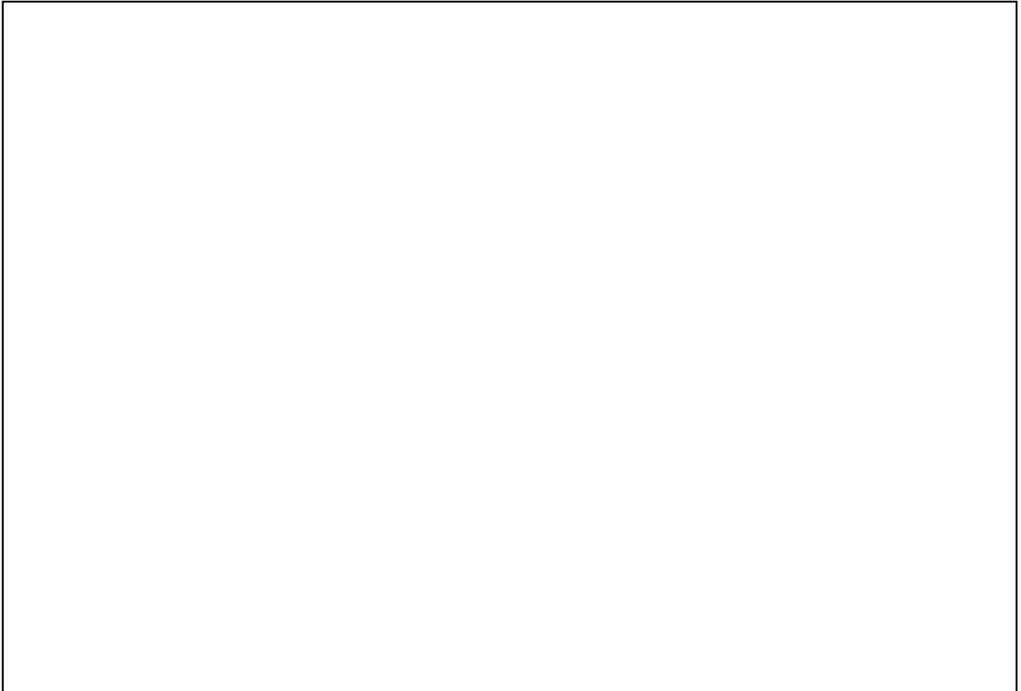
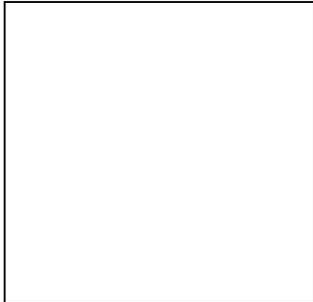
582994 12-80 CIA

~~Secret~~

~~Secret~~

---

**USSR: Water Damaged Crop**



a record cotton harvest in Central Asia. Our estimates for individual crops are as follow:

- The *potato* harvest will be about 75 million tons, down 10 million tons from our previous forecast and roughly 15 percent below the output averaged during the 1970s. Heavy rains during September and early October probably damaged potatoes more than any of the other row crops. This year's harvest has also been reduced by a high incidence of plant diseases. Reports indicate that potato blight and other diseases—problems that could cause higher-than-normal losses during storage as well—were widespread in major production areas. Serious shortages already have pushed collective farm market prices for potatoes up to 10 times the state-set retail price level in some areas. To ensure potato supplies for major urban areas, Moscow recently purchased more than 200,000 tons from East Germany.
- We estimate *sugar beet* output at 75 million tons, a reduction of 10 million tons from the low end of our previous range and about 15 percent below the average harvest of 1976-79. (USDA currently estimates sugar beet production at 75-80 million tons.) Production was affected both by the delay in spring sowing and poor weather late in the growing season, which prolonged the harvest into late October. A recent *Pravda* editorial called the sugar beet crop "one of

~~Secret~~

the worst in years." In addition to the lower yield of beets, conditions indicate a crop with below-average sugar content. In the event that large quantities of late-harvested beets are still lying in the fields when heavy frosts set in, the sugar content of the beets will be further reduced.

- Production of *vegetables*—cabbage, carrots, tomatoes, cucumbers, and the like—is estimated at about 25 million tons, 1 million tons below the 1976-79 average. Poor weather delayed the harvest, caused heavy losses in localized areas, and lowered the quality of vegetables in most areas. [redacted]

[redacted] already has reported higher prices and below-normal quality for basic vegetables in Moscow and in other major provincial cities in European Russia.

- We estimate the *sunflower* crop at about 4.5 million tons, roughly 1 million tons below the 1976-79 average. Disease problems, weeds, and a July drought damaged some of the most productive areas of the North Caucasus. The drought was followed by excessive rain and many cloudy days, which delayed both maturation and harvesting of the crop and caused mold damage as well. Early October observations by [redacted] revealed large areas of unharvested sunflowers. Although harvesting is normally completed by early October, official Soviet reports indicated that 27 percent of the sunflower acreage was still unharvested as of 23 October, the last reported date. If the weed and disease damage is more extensive than expected, total output could be substantially less than 4.5 million tons—perhaps as low as 4 million tons. [redacted] currently estimates the Soviet sunflower crop at 4.0-4.5 million tons, making it the worst harvest since the early 1960s.)

- In terms of total feed units, 1980 *fodder* output—hay, haylage, silage, straw, and grass meal—was reportedly 8 percent above last year's drought-reduced level but still below the 1978 level. As with other crops, there are indications of serious problems with quality. A mid-October report in *Pravda* stated that in Belorussia, Latvia, the Urals region, and a number of Russian Republic oblasts, only about 30 percent of the hay and 20 percent of the haylage

were rated as top quality. An RSFSR paper reported on 2 October that in many areas of the Northwest, Central, Central Chernozem, and other regions, more than one-half of the hay and haylage procured has been substandard and that the quality of silage and grass meal has been no better.

- Production of *cotton* is expected to reach a record 9.9 million tons, 700,000 tons more than last year's record output. Growing conditions were unusually favorable throughout Central Asia, and the area harvested was probably the largest ever. [redacted]

#### Import Needs and Availabilities

With a crop of roughly 185 million tons, the USSR faces a grain deficit of 40-50 million tons if: (a) no more than marginal cuts in livestock herds are made; (b) grain stock rebuilding is postponed; (c) livestock product output is maintained at current levels; and (d) needs for direct human consumption and for seed also continue at current levels. Since Moscow will be unable to make up the entire deficit with foreign grain, it will have to adopt other measures to balance grain supply and demand; the most likely measures are a substantial reduction in livestock inventories and abnormally large meat imports. [redacted]

We expect total Soviet imports of grain from July 1980 through June 1981 to be restricted to about 31 million tons (excluding rice), plus 2-3 million tons of soybeans, soybean meal, and manioc. The US embargo limits Soviet purchases of US grain to 8 million tons, and we believe purchases from all other sources will not exceed 23 million tons. So far, we estimate the Soviets have arranged to purchase about 27 million tons of grain, including the 8 million tons from the United States and 1 million tons of soybeans and meal. [redacted]

Other exporters may be tempted to follow Canada's lead in modifying their support of the US embargo, but such moves would not greatly add to Soviet grain imports. The EC, with its record grain harvest and large carryover stocks, could make as much as 2 million tons of additional wheat and barley available, but Moscow probably could not handle that quantity because of transportation constraints. Because of crop shortfalls, Australia cannot supply more than already estimated. [redacted]

**Table 2** Million Metric Tons

**USSR Grain Imports <sup>1</sup>  
1 July-30 June**

|                | 1979/80<br>Preliminary | 1980/81<br>Forecast | 1980/81<br>Sales and<br>Agreement <sup>2</sup> |
|----------------|------------------------|---------------------|--|
| <b>Total</b>   | <b>30.7</b>            | <b>30.7</b>         | <b>27.2</b>                                    |
| Argentina      | 5.1                    | 8.0                 | 6.5  |
| United States  | 15.3                   | 8.0                 | 8.0  |
| Canada         | 3.4                    | 5.9                 | 5.9  |
| Australia      | 4.0                    | 3.9                 | 3.9  |
| EC             | 1.0                    | 1.8                 | 1.3 <sup>3</sup>                               |
| Eastern Europe | 1.5                    | 1.5                 | 0.6  |
| Spain          | 0                      | 0.6                 | 0.6  |
| Sweden         | 0.2                    | 0.4                 | 0.2  |
| Thailand       | 0.1                    | 0.2                 | 0.1  |
| Turkey         | 0                      | 0.2                 | 0.1  |
| South Africa   | 0.1                    | 0.2                 | 0  |

<sup>1</sup> Excluding 0.5-1.0 million tons of rice.

<sup>2</sup> As of 28 November 1980.

<sup>3</sup> Including wheat flour.

Transport problems will be at least as important as grain availability in limiting Soviet imports. We estimate that under optimum conditions Soviet ports and internal transport facilities can handle an average of only 3 million tons of grain a month, or 36 million tons per year. Conditions are not optimum, however, because the US embargo has forced the use of a large number of smaller ships which are tying up Soviet port facilities. Moreover, the grain import rate over the past nine months has been well below normal Soviet port capacity. Under these conditions, we estimate that the Soviets would be hard pressed to import the estimated 31 million tons of grain available from Western sources during the year ending 30 June 1981.

Internal rail congestion also is hampering the movement of grain from ports to consumption centers. At the largest Soviet grain port, Odessa, railcars not suited for grain shipments are being pressed into service. Poor weather during the upcoming months will further hamper deliveries.

In addition to grain imports, the Soviets will have to adopt other measures to cope with the 1980 grain shortfall. Since nonstrategic grain stocks were probably drawn down to minimal levels following the poor 1979 harvest, Moscow can protect its strategic reserves only by reducing the demand for grain.\* One way is to bolster domestic meat supplies with imports. Soviet meat purchases—which are expected to exceed a record 700,000 tons in calendar year 1980—may go as high as 1 million tons in 1981. In addition, livestock inventories are likely to be reduced appreciably. Such reductions add temporarily to meat supplies but require rebuilding programs that can last years. Available data suggest that such distress slaughtering has not yet begun, at least in any discernible degree, and indeed, a policy decision to reduce inventories is not likely to be made until early 1981.

In any event, the hard currency bill for agricultural products in both 1980 and 1981 will increase substantially. Aside from grain and meat, the USSR also will import large quantities of sugar and other agricultural products. In anticipation of problems with the domestic sugar beet crop and a poor Cuban sugarcane harvest, the Soviets have been forced into the world sugar market. They have already bought about 2.6 million tons of sugar and are calling for delivery of as much of it as possible by January 1981. This would allow Moscow to make additional sugar purchases for delivery later in 1981.

We estimate that in 1980 hard currency imports of major farm products will total about \$8.6 billion—or about two-thirds of total Soviet agricultural imports—up sharply from \$5.0 billion in 1979 (see table 3). Based on our estimate for the first six months of next year, the Soviets may have to pay almost \$12 billion in hard currency for imports of these products during 1981. Because the large increase in agricultural imports this year has not been fully offset by an increase

\* The USSR holds an unknown quantity of grain to supply their military forces as well as civilian consumers in time of war. This is in addition to operating stocks and buffer stocks—accumulated in years of large harvests and reduced in years of poor ones.

Table 3

Million US \$

**USSR: Estimated Hard Currency Imports of Major Agricultural Products\***

|                   | 1979         | 1980         | 1981          |
|-------------------|--------------|--------------|---------------|
| <b>Total</b>      | <b>4,950</b> | <b>8,600</b> | <b>11,900</b> |
| Grain             | 3,700        | 5,200        | 6,300         |
| Meat              | 300          | 900          | 1,800         |
| Sugar             | 170          | 1,200        | 2,300         |
| Soybeans and meal | 550          | 900          | 1,000         |
| Oils              | 230          | 400          | 500           |

\*Excluding hard currency purchases from Eastern Europe which are believed to be relatively small.



in sales to the West, we estimate that the Soviet hard currency deficit on total merchandise trade could rise from \$2.1 billion in 1979 to as much as \$3 billion in 1980. With military sales projected to level off at the 1979 level of \$4 billion and gold sales expected to be low, the surplus on current account is expected to drop from \$3.9 billion in 1979 to \$1.0-1.5 billion in 1980.



~~Secret~~

~~Secret~~