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19 November 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Briefing of Ambassador Stoessel

The attached Briefing materials were prepared for \_\_\_\_\_, NIO/USSR. The materials were part of a briefing of Ambassador Stoessel, US Ambassador for the USSR. The data were prepared by \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ and \_\_\_\_\_ were participants in the briefing.

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THE SOVIET GRAIN DEFICIT

Office of Economic Research  
Central Intelligence Agency  
18 November 1975

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18 November 1975

THE SOVIET GRAIN DEFICIT

Principal Findings

Our current estimate of Soviet grain production in 1975 of 150-155 million tons falls about 70 million tons short of requirements for FY 1976.\*

The USSR has so far purchased approximately 26-1/2 million tons of foreign grain. Assuming the United States will limit sales to the current ceiling of 17 million metric tons, we estimate the Soviets will be able to gain access to about 30 million tons of grain for delivery during FY 1976. In addition, Moscow undoubtedly will draw down grain stocks, which we believe do not exceed 10-15 million tons and may be considerably less. These two factors, taken together, narrow the difference between available supply and requirements to a minimum of 25 million tons. If carryover stocks from FY 1975 are in the 5-10 million range and if we have underestimated the drought damage to the non-grain forage crops, the supply-demand gap could be as much as 35-40 million tons.

\* Fiscal years in this paper refer to the period 1 July of the previous year to 30 June of the stated year.

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The Soviets presumably will have to take a combination of unpalatable steps: (a) negotiate for a further relaxation of the current ceiling on US grain, (b) contract for additional grain from the United States (up to the logistical limit of 36 million tons annually), (c) import additional quantities of soybeans from the United States and Brazil, (d) increase meat imports, (e) reduce the quality of bread, (f) cut livestock feed rations, and (g) slaughter additional livestock.

Although the Soviet government, with its commitment to raising living standards, will be very reluctant to take several of the steps above, it will have no alternative. Indeed, belt-tightening measures such as distress slaughtering have already begun.

A reduction in requirements of 25 million tons by way of decreasing the use of grain for feeding livestock would be equivalent to reducing meat (pork) production by 3-1/2 million tons. A setback of this magnitude in meat output (or in a blend of reductions in other livestock products as well as meat) is equivalent to about a fourth of calendar year (CY) 1974 production.

We would expect the peak of the impact on domestic availabilities of livestock products to come between March and August 1976. If official policy emphasizes a reduction in hog and poultry inventories -- the primary

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grain consumers -- rather than a reduction in feed rations per head.--the peak period of depressed availabilities of livestock products will probably be delayed to the last half of CY 1976.

The acceptance of the less likely, but possibly higher grain deficit (35 to 40 million ton range) would have a potentially more severe impact on livestock production, especially in the longer run. Under this assumption, the adjustment scenario may focus on a moderate reduction in cattle herds as well as hogs and poultry. Not only would this have a further dampening effect on output of livestock products in the last half of 1976, but, because of the longer period required for rebuilding cattle inventories, a full recovery to CY 1975 levels of production could be delayed until the last half of CY 1977.

There are certain to be widespread repercussions under either lower or higher assumptions concerning the FY 1976 grain deficit. The crop failure will have an impact on a wide range of matters: the consumer program, formulation of the next five-year plan, a program for the Party Congress in February, and relations with the West. Debate and disagreement among the leadership are likely to become more heated on many issues.

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### Production and Requirements

Soviet grain requirements during FY 1976 are expected to far exceed supply. Direct grain needs are estimated to be about 196 million metric tons. In addition, due to unusually large losses this year of hay and other forage crops -- normally supplying about two-thirds of the USSR's livestock feed\* -- at least 7-1/2 million more tons of grain may be required to feed livestock.\*\* The lost forage added to the normal grain requirements brings 1975/76 total grain needs to roughly 204 million tons (see Table).

The quantity of grain required, however, cannot be directly balanced with the estimated gross output. The USSR reports grain production on a "bunker" weight basis,\*\* that is, as the grain comes from the combine before handling and transportation losses occur. At

\* Important forage crops include silage (12% of total feed units in 1970, the year of most recent data), green chop (9%), potatoes and feed roots (3%), hay (10%), straw (6%), and pasture (22%).

\*\* Since the nutritive content (or "feed-unit" value) varies by type of grain, the conversion from forage into grain equivalent depends on the type of grain available for feeding. Because corn is the most likely feed grain to be imported we have expressed the forage crop shortfall in "corn equivalent." The calculation is based on hay and silage losses only. It does not include an estimate of possible loss of pasture feed.

\*\*\* Bunker weight includes excess moisture, trash, dirt, weed seeds and grain admixtures, all of which are reduced to acceptable standards in several stages from farm to user.

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USSR: Estimated Production and Requirements of Grain  
 FY 1976

Fiscal Year	Estimated Production (1)	Waste and Losses b/ (2)	Total (3)	Requirements				Deficit	
				Feed (4)	Food c/ (5)	Seed (6)	Industrial (7)		Export (8)
1975/76	152-1/2 a/	16-1/2	204	111 d/	60	27	3	3	70-1/2 e/

Million Metric Tons

- a/ Mean of the estimated range of 150 to 155 million tons of production.
- b/ Waste and loss rate of roughly 11% applied to production. This includes an estimated 3% handling loss factor (transportation and storage) and an estimated 8% waste factor resulting from excess moisture and extraneous matter included in the bunker weight measurement of grain (see text). The average exaggeration for the period 1961-70 came to about 8%.
- c/ Our estimates of the quantity of grain required for food are based on production data for flour and groats.
- d/ Including an allowance of 7-1/2 million tons of corn equivalent for losses of forage crops (see text).
- e/ This deficit of 70-1/2 million tons of usable (net) grain is derived by the following steps: (a) "inflating" the total requirements of 204 million tons to a total of 229 million tons, the amount of grain required to be reported in official Soviet terms (see text) -- 204 divided by .89; (b) obtaining a gross difference of 76-1/2 million metric tons by subtracting the gross production of 152-1/2 million tons (column 1) from 229 million tons; (c) reducing this gross difference of 76-1/2 million metric tons by the 8% waste factor (see footnote a/) to obtain 70-1/2 million tons, the amount of grain required net of extraneous matter but gross of a 3% handling loss factor, i.e., the amount of "clean" grain required to be imported to cover the deficit.

the same time, uses shown in the table are given on a cleaned and standardized basis. Therefore, to be comparable, gross production must be discounted to exclude waste and losses.

Although the discount varies from year to year, evidence indicates that grain production -- as measured in standard condition -- has been from 4% to 12% less than reported during 1961-70. The average exaggeration for the 10-year period has been about 8%. In addition, roughly 3% of the reported production is lost in handling and transportation.

If the mean (152-1/2 million tons) of our current production estimate of 150-155 million tons is realized, and if we have correctly estimated (1) normal requirements, (2) "losses" caused by exaggerated production data and in handling, and (3) the possible grain deficit caused by forage losses, the total gap will be 70-1/2 million tons as shown in the table.

So far, during FY 76 the USSR has contracted for about 26-1/2 million tons of foreign grain. The US ceiling on further Soviet purchases, taken together with the extremely tight international grain market, will probably limit USSR imports to roughly 30 million tons. In addition, the Soviets undoubtedly will draw on stocks, which we



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believe do not exceed 10 to 15 million tons.\* This would narrow the gap between expected current supply (expected production net of losses and waste, plus expected purchases of 30 million tons, plus the use of 15 million tons of stocks) and requirements to 25 million tons.

This estimate of the remaining gap between grain requirements and production is more likely to be too low than too high.

- Our estimate of current requirements is conservative. It allows for only a moderate increase in livestock feed supplies considering the trend in livestock numbers. Moreover, drought damage to 1975 forage crops may have been greater than estimated above.
- As mentioned above, we believe our allowance for drawdown of stocks may be too high.

\* Stocks could be substantially less. Less is known about Soviet grain stocks than any other aspect of the supply and demand situation. The quantity held in reserve is a state secret, protected by law. Estimates must be derived by balancing uses against production and imports using less-than-adequate data and requiring arbitrary assumptions for some important factors.

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Dealing With the Supply-Demand Gap

Moscow will have to make substantial adjustments to cope with the shortfall of at least 25 million tons.

Their options include the following:

- reduce the quality of bread (as Khrushchev did following the poor 1963 harvest) with saving of approximately 2-1/2 million tons of grain;\*
- cut livestock inventories (e.g., a 5% reduction in total herds and flocks would lower the demand for feedgrains by about 6 million tons);
- reduce feed rations per head of livestock while maintaining the current livestock inventory (e.g., a per-head ration cut to the 1972 level would roughly save 13 million tons).
- Increase meat imports to 1 million tons (double 1974 imports). This quantity (500,000 additional tons), about 3-1/2% of total meat supplies, is available (outside the United States) and would reduce grain demand by 4 million tons.

\* Increasing the amount of flour milled from a ton of grain to the 1963 level will provide a 4 million ton gross saving of grain. However, there is a 1-1/2 million ton offset because of the loss of milling byproducts for feeding livestock.

- Import more grain from the United States than the 17 million tons scheduled under the current ceiling.\* Given our estimated import capacity limit of 36 million tons in FY 1976 for Soviet ports, a maximum of 6 million tons additional grain could be imported.\*\*
- Import additional soybeans -- beyond the 1 to 1-1/2 million tons purchased to date -- to stretch feed grain supplies.\*\*\*

Although the Soviet government, with its commitment to raising living standards, will be very reluctant to take several of the steps above, it will have no alternative. Indeed, belt tightening measures have already begun. These are impinging largely on livestock, which normally

\* Before the lifting of the US moratorium in October, the Soviets had purchased about 10 million tons of US-origin grain. Although the US has placed a limit of an additional 7 million tons on new sales, the Administration is willing to consider at a later date a request for larger purchases during the current marketing year ending on 30 June 1976.

\*\* Assuming reasonable scheduling, ports in the USSR can handle up to 36 million tons of grain imports a year. The domestic transport system can manage grain shipments of 36 million tons at the cost of diversion of freight cars from other uses and consequent short-term economic disruptions. The hard currency outlays for the 26-1/2 million tons (c.i.f.) purchased to date come to roughly \$4 billion. If the Soviets obtain access to the "logistical limit" of 36 million tons, expenditures would be on the order of \$5-1/2 billion.

\*\*\* Soviet grain and oilseed buyers have indicated that they consider 1 million tons of soybeans to be equivalent in feeding value to 2 million tons of grain.

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consume half the grain crop. Distress slaughtering of livestock, mainly hogs, began in August and continued through September and presumably October. As of 1 October, the above-average slaughter of hogs had reduced numbers by 7 million head in the socialized sector, 12% below a year earlier. Hog numbers are dropping more rapidly than pork production figures indicate; animals are being slaughtered at lower-than-normal weights, thus avoiding the intensive grain feeding of the final stages of fattening. Scattered information on meat production in the important private sector shows that distress slaughtering of cattle is under way. Because of the lighter-than-average weights of the animals currently being slaughtered, however, the expected short-term benefit for the consumer from additional meat supplies is only being partially realized.\*

Although there is no evidence that the Soviets have made large purchases in the near term from Western suppliers, there are reports of recent inquiries for large amounts (200-250,000 tons) of Argentine beef. If purchases are not consummated during the balance of 1975,

\* Based on the total liveweight of animals sold to government-controlled packing plants during September, we do not expect meat production in October -- data not yet released -- to be substantially above the same month last year.

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Moscow almost certainly will contract for large amounts of foreign meat in 1976, ample supplies of which will continue to be available from Argentinian, Australia, and the EC. Purchases of 1 million tons -- double the level in 1974 -- could cost the Soviets close to \$1 billion in foreign exchange.

there has been a decline in the quality of bread (i.e., a rise in the milling rate) as well as bread shortages; however, there is no supporting evidence to date. We believe the leadership would only with great reluctance adopt a policy degrading the average quality of bread and/or restrict the sale of bread and flour in retail stores.\*

#### The Impact on Livestock Production -- The Outlook

A reduction in requirements of 25 million tons by way of decreasing the use of grain for feeding livestock would be equivalent to reducing meat (pork) production by 3.5 million tons. A setback of this magnitude in meat output (or in a blend of reductions in other livestock products as well as meat) is equivalent to about a fourth of calendar year (CY) 1974 production.

\* These measures, employed by Khrushchev following the 1963 harvest failure, were not adopted by the Brezhnev-Kosygin regime following a comparable harvest shortfall in 1965.

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We would expect the peak of the impact on domestic availabilities of livestock products to come between March and August 1976. If official policy emphasizes a reduction in hog and poultry inventories -- the primary grain consumers -- rather than a reduction in feed rations per head, the peak period of depressed availabilities of livestock products will probably be delayed to the last half of CY 1976.

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