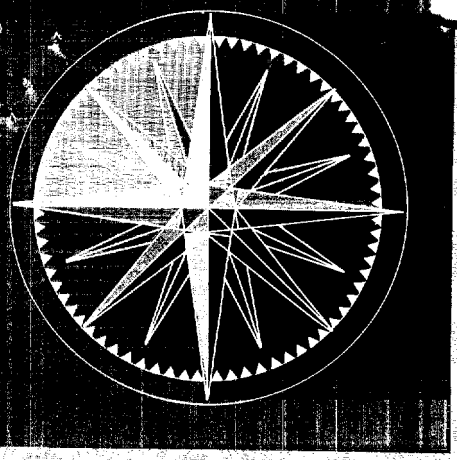

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SPECIAL REPORT

THE SOVIET GRAIN PROBLEM

CENTRAL INTELLIGENCE AGENCY
OFFICE OF CURRENT INTELLIGENCE

State Dept. review completed

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1 November 1963

THE SOVIET GRAIN PROBLEM

The USSR's large purchases of wheat this year result from a real need to compensate for a very poor crop following some five years of stagnation in agricultural production. They do not appear to have been motivated by an intention to prevent purchases by Communist China, and such large purchases are not likely to be repeated in the future. The return of normal weather would permit a sharp recovery in 1964. Thereafter the expected increasing supplies of fertilizer and machinery and expansion of irrigation will probably bring substantial, although expensive, increases in agricultural output.

Stagnation of Agriculture

The growth of net agricultural production in the USSR from 1950 to 1954 merely kept pace with the growth in population. In the next four years, however, production increased rapidly, and the Soviet consumer, long neglected by Stalin, realized a marked improvement in his diet. The "New Lands" program, the corn program, increased investment in agriculture, increased incentives for farmers, and exceptionally good weather conditions in 1958 all contributed to this growth.

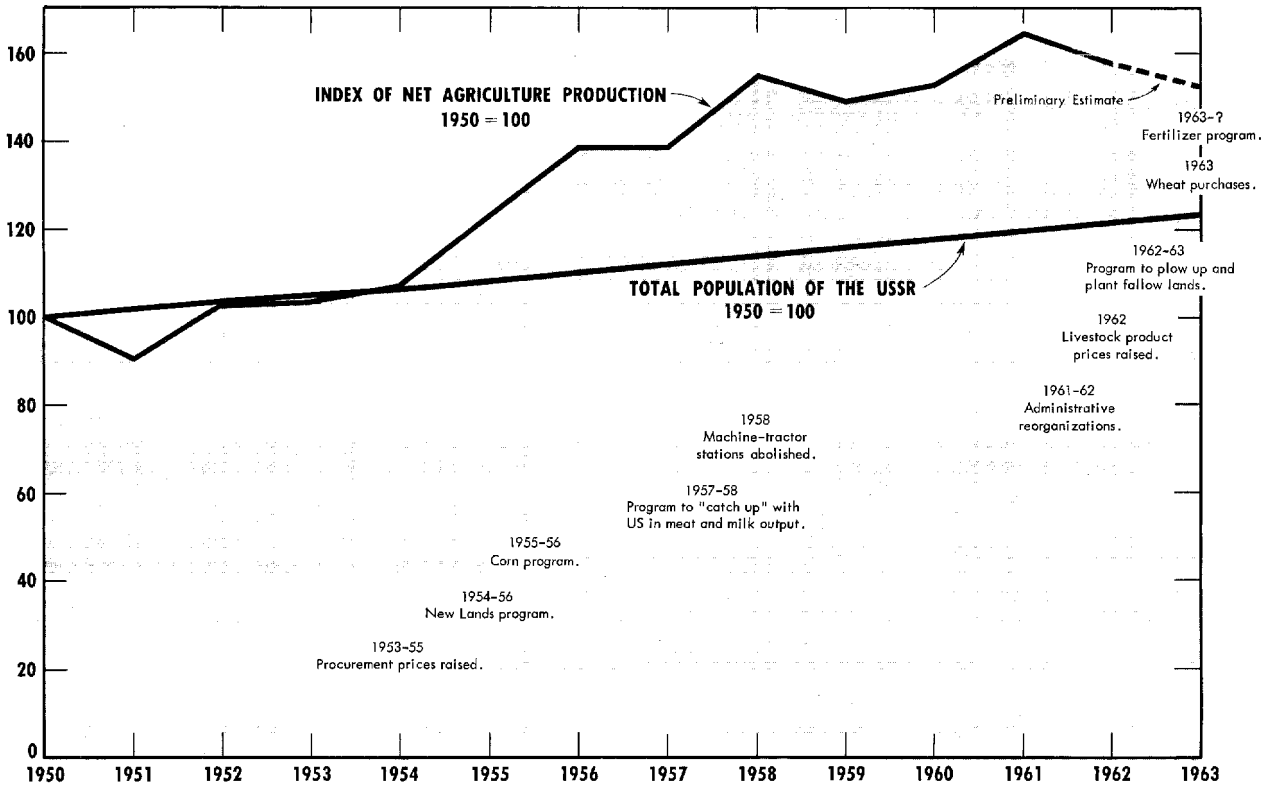
During this period the Soviet consumer was conditioned to expect continued improvement. In 1957, for example, Khrushchev boasted that the USSR would catch up with the US in the per capita production of milk by 1958 and in per capita production of meat by 1960 or 1961. These promises were completely unrealistic, but there was a significant gain in production of meat and milk during the period 1957-59, and the quality of the Soviet diet reached a peak in 1958-59. There has been little change in net agricultural production since 1958, and the per capita availability of many food products has either declined or failed to increase.

Shortages of livestock products and lack of profitability in the livestock sector prompted the regime to raise the state purchase prices for livestock and some livestock products in June 1962. This markup was passed on to the consumer--a move that helped bring about at least one major civil disturbance in 1962.

Situation in 1963

During the winter of 1962-63 food and feed were in short supply in a number of important regions in the USSR. The 1962 potato crop was the smallest since the early postwar years. The shortages had the greatest impact in the northern European USSR, where potatoes are

MAJOR DEVELOPMENTS IN SOVIET AGRICULTURE



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particularly important as a source of food and feed. Shortages of feed also reduced the yields of milk and caused distress slaughtering of livestock in this area. In Kazakhstan, 350,000 sheep died during the period November 1962 through January 1963, and official inspections disclosed large numbers of emaciated sheep.

For the fifth consecutive year, Soviet production of grain as well as a number of other crops in 1963 will fall below that of 1958--the base year of the Seven Year Plan. Despite an increase in the area sown to grains, production of grain in 1963 will probably not exceed 105 million metric tons--well below the mediocre harvest of 1962 and much below 1958. The wheat crop, in particular, was hard hit by weather and is estimated to be the lowest since 1954.

Poor growing conditions also reduced the harvest of other crops. Yields of sunflowers and sugar beets are estimated to have been about 10 to 20 percent below average. Production of potatoes will also be below average, but above the very poor harvest of 1962. Production of cotton, which is grown under irrigation, is

estimated to have increased slightly over that in 1962. The production of feed crops, including hay and silage, is estimated to have been below average, and there are already indications that measures are being taken to reduce livestock herds because of the tight feed supply.

Wheat in the Soviet Diet

Bread and other grain products provide about 50 percent of the calories in the Soviet diet, and these have been in relatively plentiful supply. This year, however, the wheat crop--which alone provides about three fifths of these calories--was so poor as to leave the Soviets some 10-15 million tons short of wheat for domestic requirements for food, seed, and industrial use and for export commitments. The regime for some weeks has been conducting a campaign to discourage the use of bread as livestock feed, to cut down on the waste of bread in restaurants, and to enforce more rigidly existing limitations on the amounts of bread that can be purchased.

Unless the regime can keep bread cheap and reasonably plentiful, it may face civil repercussions. Last year's price rise on meat and butter (30 percent) was taken by consumers as a breach of faith on the part of the regime; at least one major riot is known to have occurred (Rostov Oblast), and others may have taken place. The Soviet regime has already shown signs of being apprehensive that problems stemming from the poor harvest will bring new adverse reactions from the population; the US Embassy in Moscow has reported that the Kremlin leadership has begun to prepare the Soviet people for unpleasant eventualities. Meetings have been called recently in plants, offices and apartment houses to hear statements from the party central committee describing difficulties with the harvest, urging conservation of grain, and assuring the people of regime efforts to buy extra grain abroad.

The USSR's Grain Trade

During the period 1955-62, the Soviet Union was a net exporter of an average of about 5 million tons of grain annually, varying from 2.1 million tons in 1956 to 7.5 million tons in 1962. Since 1955, net exports of wheat have ranged from a

SOVIET GRAIN PRODUCTION

(million metric tons)

	ALL GRAINS		WHEAT ALONE	
	Soviet Official	US Estimate	Soviet Official	US Estimate
1958	141	125	77	63
1959	126	100	69	55
1960	134	100	64	46
1961	137	115	67	55
1962	148	115	71	57
1963	---	100-110	--	42-46

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low of 1 million tons in 1956 to a high of almost 6 million tons in 1959.

Grain exports to nonbloc countries have been increasing, but the USSR's principal market is still the European satellites. In 1962, for example, they took 4.1 million tons of Soviet grain--nearly 75 percent of their grain import requirements.

In September 1963, the Soviet Union, for the first time, entered the free world grain market as a large-scale buyer, with the purchases of about 6.5 million tons of wheat and flour from Canada and 1.6 - 1.7 million tons of wheat from Australia. Currently, Soviet trade officials are negotiating with US grain exporters for additional grain, perhaps involving 3-4 million tons of wheat.

Because of a relatively poor crop in the European satellites in 1963, their imports of grain may reach a postwar high in 1964. Rumania is the only one where production of grain in 1963 may exceed that in 1962.

[redacted] statements by satellite officials, implies that only Poland, East Germany, and Czechoslovakia should expect to import grain from the USSR in 1964. Soviet grain export commitments to these satellites are estimated to total approximately 4 million tons. Satellite purchases and requests for purchase of grain in the free world now total nearly another 4 million tons. The actual amounts purchased, however, may be influenced by the ability of the satellites to obtain favorable credit arrangements. A very large share of this grain (perhaps 2.8 million tons) will probably be purchased from the US. Poland has requested 1.3 million tons of grain from the US under PL-480.

Russian exports of wheat and other grains to the nonbloc countries (including Cuba) in 1963-64 probably will not exceed 1.5 million tons. In 1962 the USSR exported 2.35 million metric tons of grain, including 1.6 million tons of wheat and 0.25 million tons of wheat flour, to these markets. Grain export commitments with Cuba, Brazil, and other nonbloc countries totaling slightly over 1 million tons--mostly wheat--probably will be honored. Severe reductions from the 1.4 million tons of grain, including 0.8 million tons of wheat, which the USSR exported to the UK, Western Europe, and the Scandinavian countries in 1962,can be expected. The Soviets have informed Finland that they cannot fulfill their remaining 1963 export commitment for wheat and that the exports to Finland will be further reduced in 1964. 25X1 25X1

Effect on Communist China

The Soviet purchases of wheat from Canada and Australia

reflect a real need and thus it is not necessary to attribute these purchases to a Soviet desire to deny grain to Communist China. However, China will probably find that wheat now costs more and is harder to obtain, particularly for delivery in the first half of 1964. Although the food situation in Communist China has improved over the low point of 1960-61, it is likely to need imports of grain in 1964 at approximately the level of the 5.3 million tons average of the past three years.

China's grain imports have been made up almost entirely of wheat. Although grain has been purchased from a number of sources, Australia and Canada have been the largest suppliers, providing 43 percent and 35 percent respectively of China's grain imports during the period 1961-63.

There is no evidence that Australia has committed any grain to Communist China for 1964. The Australians have announced that they will carry over into 1964 only between 1 and 1.5 million tons of uncommitted grain, less than half the amount they sold China in 1963.

The current Chinese agreement with Canada provides for the purchase of 3 to 5 million tons of wheat over a three-year-period, beginning 1 August 1963. Of this, 508,000 tons are to be delivered by January 1964. Negotiations for additional wheat deliveries in 1964 under this agreement apparently have not started.

A poor 1963 wheat crop in France, China's third most important source of wheat, reportedly has precluded fulfillment of the remainder of France's contract in 1963 as well as its contract to supply roughly 300,000 tons of wheat to China in 1964. However, there is a possibility that France may fulfill this contract by substituting barley or flour for wheat.

Priority of Agriculture in Soviet Planning

In January 1961, Khrushchev pledged additional financial support to agriculture, but this support developed as an indecisive, piecemeal process. Prices for livestock and livestock products purchased by the state were increased in 1962 to spur the lagging animal husbandry sector, which had been operating at huge losses on most farms. Investment in agriculture increased a moderate 9 percent in 1962. In the main, however, the Soviet leadership pinned its hopes for 1962 and 1963 on administrative reorganizations and a stopgap program to reduce the fallow area, plow up sown grassland, and shift these acreages to more productive crops.

Some progress was made in 1961-63 in increasing the deliveries of equipment to agriculture. The value of the production of agricultural

machinery (excluding tractors and trucks), which had declined during 1958-60, reached a record high in 1962 and continued to grow in the first six months of 1963. Khrushchev in March 1962 announced the optimum inventories required of certain of the major types of equipment used by agriculture. The shortages revealed by the inventory lists were large and suggested that deliveries of equipment in the future would appreciably exceed those of the peak levels of the past. No deadline was announced for the attainment of the planned inventories, but it was said that every effort should be made to secure the greatest possible progress within the next few years.

In recent years the Soviets have shown increased interest in the expansion of irrigation. Khrushchev in recent speeches has indicated quite clearly that he is very much concerned with expanding the irrigated area, but his statements do not indicate any hasty program to bring about a rapid expansion of the irrigation network. Rather, he cautioned, "Let us consider all plans carefully and make our calculations."

Since the early part of 1962, the Soviet Government has become increasingly concerned with the lag in construction of new capacity in the fertilizer industry. Abundant information suggests that a decision has been made to provide resources to assure a sharp rise in the production of fertilizers over the next five to seven years. However, fulfillment of the original Seven-Year Plan goal for the production of 35 million tons of fertilizer in 1965 is by no means assured and will require a tremendous effort in the next two years.

Beyond 1965, the goals are as yet apparently tentative. Goals for 1970 and 1980, adopted in 1961, called for production to reach 77 million and 125-135 million tons, respectively. Khrushchev, in a speech at Volgograd on 17 September 1963 and subsequently, has stressed the major contribution which fertilizers could make to the development of Soviet agriculture, and has stated that it was planned to bring production of fertilizers to approximately 100 million tons by 1970. The Soviet goal for production of fertilizers in 1963 is 20 million tons.

Outlook

The year-to-year fluctuations in the production of grain in the Soviet Union are caused primarily by variations in weather. The 1963 crop developed under abnormally poor weather conditions, and there is no reason to expect that this particular weather pattern will be repeated in 1964. Grain production may benefit from increased rates of fertilization in 1964. Khrushchev stated in a recent speech that 10 million tons of mineral fertilizers

would be allocated to the better wheat-growing areas. Normal weather could be expected to raise grain yields per acre to a level not far short of the 1954-58 average, and if the Soviets seed an acreage of grain equal to the record area of 1963, grain production might increase by about one fourth. However, spring wheat acreage in 1964 could decline sharply if the Soviets are forced to adopt a realistic system of fallowing in the New Lands area.

The continuous cropping of the New Lands for 7-8 years has resulted in a deterioration in the structure of the soil, a decline in fertility, and an increase in weed infestation. As a result, yields have been declining and wind erosion is becoming an increasingly serious problem.

A rotation which leaves a large share of the crop land in fallow each year appears to be the best solution to these problems. Canadian experience in a similar area has shown that, with proper techniques to conserve soil moisture and prevent soil erosion, relatively stable yields can be achieved. While Soviet agriculturalists have acknowledged the need for proper farming practices, the regime has not followed through, thus jeopardizing the future of crop production in these areas.

The increases in agricultural production attributable to an expansion of the irrigated area and to increases in the production of mineral fertilizers probably will be modest over the next several years. The expansion of the irrigated area will be a time-consuming and costly undertaking, and apparently is to be given a secondary priority relative to fertilizers. Waste and inefficiencies in the use of mineral fertilizers will sharply limit the crop production response to the additional fertilizer produced, at least in the short run.

However, the Soviets definitely need more fertilizer--even to maintain present levels of crop yields. This is particularly true because of declining yields in the New Lands and because of the soil-depleting effects of the plowing-up of sown grasses and the reduction of fallow. It is estimated that by 1965 the amount of mineral fertilizer allocated to Soviet agriculture will be about half again as much as in 1963.

Organizational, ideological, and climatological factors have kept the Soviets from achieving high levels of efficiency in the use of resources in agriculture. Current problems in the distribution and use of mineral fertilizers in the Soviet Union can be expected to increase as the production of fertilizer is expanded rapidly in the years ahead. Wastage of fertilizer has been heavy at railroad sidings, and inadequate storage has caused huge losses of

nutrients. The Soviets have admitted that about one fourth of the fertilizer is lost before reaching the fields. The efficient use of fertilizer requires a high level of technical and managerial skill, and incorrect use can actually reduce crop yields. An article in a Soviet journal on ways of improving use of mineral fertilizer claimed that one third of the mineral fertilizer applied in the country as a whole did not significantly benefit the crops. Other surveys have confirmed great inefficiency in the use of fertilizer.

Even if the Soviets in time should overcome their organizational problems in the distribution and use of mineral fertilizers, natural conditions will limit the crop production response to the very high rates of fertilization planned for the future. The Soviet Union has no large areas climatically analogous to the southeastern United States or the Corn Belt, where moisture is abundant and soils are highly responsive to fertilization. A much larger part of the Soviet Union's cropland is in subhumid areas like the American Great Plains and the prairie provinces of Canada, where crop yield potentials from fertilization are less than in more humid areas.

It is planned that the use of mineral fertilizers on grain crops in the Soviet Union will increase sharply. In 1960 less than 20 percent (2.2 million metric tons) of the mineral fertilizer used on crops was applied on grain. If the Soviets do achieve their production goal of 100 million tons of fertilizer in 1970 or shortly thereafter, perhaps about 35 million tons of this total would be applied to grain. 25X1

the Soviets expect 25X1
a response of about 1.5 - 2.0 tons of grain per ton of fertilizer applied. Preliminary analysis suggests that this response rate may be possible sometime in the future provided that the fertilizer is efficiently used. Thus 35 million tons of fertilizer applied annually to grain might produce an additional 55-70 million tons of grain--but this achievement will be difficult and expensive. 25X1

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