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INTELLIGENCE MEMORANDUM

1954 CROP CONDITIONS IN THE SOVIET BLOC

CIA/RR IM-400

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FOREWORD

This memorandum is an analysis of the condition of growing crops in the Soviet Bloc and is based on available information about weather and other factors affecting crop yields in the Soviet Bloc. As a qualitative statement, it reflects in a general way the prospects for the food supply of the Soviet Bloc for the consumption year 1 July 1954 through 30 June 1955. Quantitative estimates of production, based on acreage as well as yield, will be made in a later report. The general statements contained in this memorandum regarding conditions affecting crop development are indicative of the field crop potential of the Soviet Bloc as of mid-July 1954.

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CIA/RR IM-400
(ORR Project 21.451)

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1954 CROP CONDITIONS IN THE SOVIET BLOC*

Summary

Crop production in 1954 in the Soviet Bloc is tentatively estimated to vary from about the same as in 1953 in the USSR and slightly below in the European Satellites to considerably below 1953 in Communist China. Generally speaking, the efforts of the USSR and the European Satellites during the first year of the "new course" to raise agricultural production have not been successful. It is estimated that in these two areas the food situation, on a per capita basis, will be less favorable than in 1953. Communist China, where there has been a serious drop in production as a result of floods, is faced with a prospect of famine in various areas in the spring of 1955.

I. USSR.

Weather and crop information as of 31 July 1954 indicates that yields of major crops will vary from somewhat less than last year's to about the same, but as a result of a general increase in acreage of the important food and fiber crops, actual production of major crops will probably be close to the 1953 level.**

Grain production probably will not be above last year's relatively poor harvest, even though there has been a grain acreage expansion of some 5 percent. Because of an extensive drought focused in the Ukraine but affecting other areas of the European USSR as well, the average grain yield will probably be less than last year's. The better-than-

* The estimates and conclusions contained in this memorandum represent the best judgment of the responsible analyst as of 18 August 1954.

** 1953 production of grain was below the 3 previous years. Potatoes and sugar beet production were below 1952. Cotton production was equal to the postwar high in 1951.

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average yields in West Siberia and northern Kazakhstan, where the new acreage expansion program is under way, will not fully offset the poor harvest in other areas.

The potato and sugar beet crops, largely concentrated in the European USSR, suffered because of the May-June drought, but they may have recovered fully because of above-average July rains. As of 1 August 1954 it is too early to estimate definitely the production prospects of these two crops. It is believed, however, that production may be about the same as it was last year.

The cotton crop has been hampered by unfavorable weather both in the irrigated and unirrigated zones. Although acreage was significantly expanded, especially in the irrigated areas, it is believed that over-all production will be about the same as last year's.

The prospects for a rise in per capita food intake are dim for the 1954-55 consumption year. Unless the government releases considerable reserves of grain and other food products and/or transports food from surplus areas to relieve the drought-stricken areas of the Ukraine, by the spring of 1955 there may be famine conditions in parts of the Central Ukraine and perhaps in other localized areas. Because of a poor harvest of hay and straw in the drought areas and a lagging of fodder accumulations in other areas, livestock numbers and livestock productivity will not increase enough to raise meat and dairy product consumption -- with the possible exception of temporary local increases resulting from heavy pre-winter slaughtering.

The Ukraine (Region III)* has suffered from a major drought during the important stages of this year's crop development. Early growth of fall-sown grains, hindered by a lack of summer and fall moisture, had not developed fully by the advent of winter. As a result, one of the coldest winters on record caused an abnormal amount of winter kill of fall-sown grains and required extensive re-sowing this spring. A late spring, coupled with a below-normal accumulation of soil moisture reserves, made both fall- and spring-sown grains vulnerable to poor growing conditions during the critical months of May and June. In late May and all of June the combination of high temperatures and

* The term region in this report refers to the economic regions defined and numbered on CIA Map 12048.1, 9-51 (First Revision 7-52) USSR: Economic Regions.

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rainfall far below normal created drought conditions seriously reducing grain yields. Agricultural officers of Embassy Moscow, after an extensive survey of crop conditions in the Ukraine, have estimated that crop yields will not exceed two-thirds of average. If the corn crop was not rejuvenated by July rains it may have suffered further damage, and yields of corn possibly will be less than one-half of average.

In the Southeast (Lower Don - North Caucasus -- Region IV) grain yields apparently range from poor to good. The drought conditions affecting the Ukrainian grain harvest extend over into the Lower Don regions of Western and Northern Rostov and the Northern Kuban' (Krasnodar Kray). Embassy Moscow observers indicate that the corn crop is probably a near failure in the Lower Don area near the Azov Sea and that small grain yields will be about one-half of average. Counterbalancing these poor yields are much better prospects for the rest of the Kuban' and North Caucasus area, where adequate soil moisture reserves from the fall-winter season, combined with good May rains, have resulted in fair to good yields. Grain yields (including corn) probably will be average for the important Southern Kuban' area and the Stavropol' Kray and will be above average in the southeastern provinces along the Caspian Sea. As a whole, average yields for this important area will probably be about the same as in 1953 but considerably below the excellent yields of 1952.

In the Transcaucasus (Region V), yields of grain may be somewhat better than in 1953 and 1952. Embassy Moscow travelers indicate good crop conditions in Azerbaydzhan SSR and the Georgian SSR.

The West Baltic and Belorussia -- (Regions IIa and IIb) also have been partially affected by drought this year. Grain yield prospects are believed to be below 1953, which -- in turn -- were below the long-run average.

In the Central Region -- (Region VII) the prospective grain yields are believed to be somewhat above average but about the same as last year. Normal to above-normal May rainfall, preceded by an adequate accumulation of soil moisture from the fall-winter season, probably was sufficient to withstand the hot and dry June weather. After a series of field trips through the southern two-thirds of this region, including the important Central Black Soil Zone, the agricultural officers from Embassy Moscow report crop conditions as fair to good. Apparently only the southern half of Voronezh

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Oblast has suffered from the same drought conditions that seriously reduced Ukrainian grain yields. The Central Region in general is susceptible to poor harvesting conditions. If harvesting is prolonged because of inclement weather, the actual yield may be lower than is presently indicated.

In the Volga Region -- (Region VI) yields of winter grains probably will be better than in 1953. Moisture reserves as of late May are believed to have assured a relatively high yield of winter grains such as has occurred in the last two years. Spring grain yields may be slightly better than last year's.

In the Urals Region -- (Region VIII), grain yields possibly will be the same as in 1953, which -- in turn -- was a better-than-average year.

West Siberia (Region IX) and the northern parts of Kazakhstan (Region Xa) are the regions in which the land reclamation program initiated this year for the expansion of grain acreage has been most intensively carried out. Although there has been a lack of uniformity in weather conditions over this area during May, June, and July, it is believed that growing conditions have been generally good. Pre-spring sowing moisture accumulations probably were above average, and many areas have had above-normal precipitation during the growing season. Despite some tardiness in spring sowing because of inclement weather and the confusion attending the organization of work on new areas, crops are believed to have developed normally; the somewhat below-normal June - July temperatures aiding normal plant development. As of 1 August 1954, yield prospects are both better than average and better than in 1953. The actual harvested yield will depend on late August and September, when there is often poor harvesting weather -- including the possibility of early snows. Since the 1954 growth pattern is somewhat late, early fall weather conditions may determine the size of the crop.

II. European Satellites.

On the basis of weather and crop information as of 15 August 1954, it is expected that the over-all crop production of the European Satellites in 1954 will be slightly less than in 1953.*

* 1953 crop production was better than 1952 production for most of the area, but below 1951 and prewar levels.

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Most of the reduction will result from lower yields of bread grains, oats, barley, early vegetables, and fruit. Weather conditions during the latter part of August and September will determine whether or not yields of corn, root crops, late vegetables, and forage crops will be above 1953 levels. Insect infestations, plant diseases, and inadequate weed control caused by frequent rains and low temperatures could result in extensive damage and reduction in yields to late crops, but the situation cannot be appraised accurately at this time.

The fall and winter of 1953 was characterized by below-normal precipitation and low temperatures, which caused underfulfillment of fall plowing and sowing plans; and by a lack of snow cover, which caused extensive damage to winter wheat and barley. Conditions in the spring were no better, retarding spring planting by 2 to 4 weeks and retarding the development of fall- and spring-planted crops.

During the latter part of June and the first 2 weeks of July, rain caused a delay in the harvest and threshing of fall-sown grains. This delay is expected to result in high harvesting losses and a reduction in the quality of the grain. In addition, the wet fields have prevented proper cultivation, weeding of row crops, and drying of cut hay. The increase in soil moisture, however, should be beneficial for late crops (potatoes, sugar beets, and corn).

In order to simplify the regional presentation and to group countries having similar crop systems, the European Satellites have been divided into two areas -- northern and southern.

A. Northern Area (East Germany, Poland, and Czechoslovakia).

In the northern area of the European Satellites the weather in the fall of 1953 was very dry. In contrast to the fall of 1952, when the weather was extremely wet, thereby interfering with field work, the warm, dry weather which prevailed during the fall and early winter months (September - December 1953) was more favorable for the sowing of winter grains and for plowing. Because of the lack of adequate moisture in some areas, however, the seed planted early did not germinate, and reseedling was required.

The 1953 winter was unusually cold and dry, and there was inadequate snow cover for fall-sown grains in East Germany and Czechoslovakia. This condition caused losses of grain through winter kill. East Germany officially set losses as 17.5 percent for wheat,

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44.8 percent for barley, and 44 percent for oilseeds (rape). Similar damage from winter kill probably occurred in Czechoslovakia. In Poland, where there was more adequate snow cover for the crops, the damage from winter kill was much less.

A cold 1954 spring retarded the growth of winter grains and delayed spring field work by approximately 2 to 3 weeks throughout the northern area. Poland was the only northern Satellite where temperatures were favorable for crop development. By June, grain crops were much further advanced in Poland than in either East Germany or Czechoslovakia. The only favorable aspect of the cold spring was that it reduced the rate of evaporation of soil moisture.

The late, cold spring required that a large amount of work be done in a short period of time. This, it is believed, resulted in underfulfillment of sowing and planting plans. Under the "new course," larger areas were to be planted to fodder crops, grain, potatoes, beets, and the like, but the lack of labor, machinery, and time prevented this increase.

Heavy rains and wind during the first 10 days of July and rains during the remainder of the month have created unfavorable harvesting conditions for small grains. Throughout the area, grain was lodged (flattened), and lowlands were flooded. Mechanical harvesting has been handicapped, and the lack of farm labor -- particularly on collectives and State farms -- will delay harvesting. Heavy harvesting losses can be expected under such conditions. Because of the high moisture content of threshed grain, additional losses can be expected in storage if the grain is not properly dried.

July rains have set back the planting of late crops, weeding and thinning of sugar beets, and cultivation of row crops. The increased soil moisture, however, should be beneficial to potatoes, hay crops, vegetables, and sugar beets during the next 2 months.

According to a Czechoslovak source the excessive rainfall has caused the spreading of plant diseases, particularly in the case of cereal crops; losses were estimated at 10 to 30 percent of the 1954 harvest. Losses of this magnitude would mean a sizable reduction in the yields per hectare of grain crops in Czechoslovakia and probably in other Satellites where similar weather conditions have prevailed.

Grain production in East Germany and Czechoslovakia in 1954 will probably not be any larger than in 1953, despite a slightly

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larger sown area. It is believed that as a result of higher harvesting losses and increases in plant diseases in 1954, grain yields will be less. Despite expected high harvesting losses, Poland will probably have a slightly better grain crop than that of 1953, which was below normal. Hay crop production in 1954 will be much better than in 1953; the outlook for late potatoes, sugar beets, and forage crops is still in question.

B. Southern Area (Hungary, Rumania, Bulgaria, and Albania).

In the southern area of the European Satellites, precipitation in the fall of 1953 was considerably less than in the fall of 1952. Between August and December 1953, an average of less than 50 percent of normal precipitation was registered over most of the agricultural area. Snow cover for winter grains did not occur until late December 1953 and January 1954.

The dry weather delayed seeding of winter grains (wheat, rye, and barley) and made plowing for spring crops difficult. As a result, sowing and plowing plans for the southern area were not fulfilled. In addition, the cold dry weather was not beneficial for the germination and growth of winter grains.

A late winter and cold spring delayed spring field work and retarded the development of fall-sown crops. Hungarian officials claimed that winter barley had experienced the worst damage for many years. Winter wheat was also damaged and some areas had to be re-seeded. In the southern area, Hungary experienced the most damage to fall-seeded crops, and Rumania followed.

A late spring, combined with the underfulfillment of fall plowing and sowing plans and winter-kill damage to reseeded grain areas, created an above-normal amount of spring work to be done. Bulgaria was the only country which claimed over-all fulfillment of spring sowing plans. The emphasis on planting food crops resulted in underfulfillment of plans for planting industrial crops. Because of the late spring, corn was planted in place of spring barley, oats, and wheat in some areas of Hungary and Rumania.

The cold, dry spring* was followed by heavy rains and hail during the first 10 days in July, which caused the grain to lodge

* April was the only month in which above-normal precipitation was registered for all areas -- except Bulgaria. Temperatures were more favorable in Bulgaria.

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and delayed harvesting of both grain and hay crops. In Hungary, a small portion of the crop area was damaged by floods. Heavy losses can be expected for bread grains and barley as a result of premature harvesting that occurred in flooded areas; over-ripening of grains in the field where harvesting has been delayed; and possible rotting in shocks from the wet weather in Hungary and parts of Rumania during July. Bulgaria and Albania did not experience heavy rains in July, and although harvesting losses were reduced, there is a real need for precipitation during August and September to make a satisfactory corn crop.

Although the wet weather has set back the cultivation of corn and other row crops in Hungary and Rumania, thereby creating a weeding problem, the increase in soil moisture was badly needed for all late crops.

In general, small grain yields for 1954 are estimated to be below those of 1953 as a result of the unfavorable weather conditions for growth, development, and harvesting. Although it is too early to give a firm forecast, it is believed that given warm weather and normal precipitation during August and September, yields better than those of 1953 can be expected for corn, potatoes, sugar beets, fiber, and late vegetable crops.

III. Communist China.

A preliminary review of the crop production situation in Communist China as of 18 August 1954 indicates that over-all 1954 net food production may be as much as 9 to 12 million tons -- 8 to 9 percent -- below that of 1953.* This drop in production is the result of widespread flood damage in the basins of two of China's major rivers, the Yangtze and the Hwai. The increased production expected from the areas unaffected by floods has been more than offset by the inundation of acreage that normally produces some 12 to 15 million tons of food.

This tentative estimate is based on the following analysis.

In the first four months of 1954, Communist China had favorable weather. As a result the 1953-54 winter crop harvests were about 8 percent greater than the 1952-53 winter crop harvest.**

* See CIA/RR IM-399, Effect of the 1954 Floods on Agriculture in Communist China, 30 September, 1954. Confidential.

** Approximately 41 million tons in 1954 as compared with 38 million tons in 1953. The winter crops are wheat, barley, oats, field peas, broadbeans, and rapeseed. The winter crops constitute between 20 and 25 percent of Communist China's production of food.

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Extensive snows fell throughout the Northwest, North, East, and Northeast Administrative Regions. These relatively heavy snows over the northern third of China seemed to assure sufficient ground moisture for favorable germination of spring wheat and other summer crops.

The heavy snows, however, also had adverse effects. They brought spring floods in certain areas of Sinkiang, and in the Inner Mongolian Autonomous Region they made necessary an air-drop to provide food supplies to herdsmen and feed supplies to hard-hit livestock areas. Although there is no evidence of real disaster, it is possible that death losses in grazing areas were greater than normal.

Beginning in April 1954 and extending through May, the South China coast had excessive rainfall. Total rainfall in Kwangtung, Kwangsi, and Fukien for the month of April ranged from about 16 inches to 24 inches over large parts of the area. This rainfall is roughly 2 to 3 times the record for April in many previous years. Severe local flooding apparently occurred in Kwangtung as early as the first half of May.

In May, this belt of rainfall passed over the lower Yangtze Basin but did not cause flooding. In June, however, a series of stationary fronts* resulted in excessive rainfall over the middle reaches of the Yangtze River. The normal June rainfall at Wuhan for past years has averaged 9 inches. The rainfall in June of 1954 reached about 19 inches, and excessive precipitation continued well into July.

As of 18 August 1954, serious flooding and flood control problems have been reported by the Communists in 8 provinces -- Hupeh, Hunan, Anhwei, Chekiang, Kiangsi, Honan, Kiangsu, and Shantung.

The extent of the flood disaster is difficult to determine.** All three of the great river basin areas of Middle and North China,

* Weatherwise, these fronts were the line of demarcation between two different air masses. A relatively cold continental air mass and a relatively warm moist air mass were adjoining over the Yangtze Basin for much of the month of June.

** The American Consulate General in Hong Kong thinks it is doubtful (as of 13 August) whether the Chinese Communists are more than roughly aware of the extent of the damages.

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the Yangtze, the Huai, and the Yellow, have been affected. On 8 August an official statement in the Jen Min Jih Pao said, "unaffected by Yangtze (and) Hwai [Huai] floods (are) areas (that) make up 94 percent of (the) country's cultivated land." At the other extreme the Armed Forces Far East in Tokyo has estimated that 17 percent of China's cultivated land has been affected. The total cultivated acreage in China is approximately 95 million hectares. A range of estimates of hectares flooded is therefore established as between the 6 million admitted by the Chinese Communist government and the 16 million estimated by the Armed Forces Far East. The Armed Forces Far East have likewise estimated the crop loss for the year at 27 million tons. Using the 1931-49 average production per hectare of 7 summer crops, a generalized estimate of 1.5 tons of production per hectare is derived for the 7 provinces most likely suffering from flood damage.* According to the Chinese figures on cultivated acreage, this would imply a crop loss of 9 million tons.

Careful evaluation of the available evidence suggests the following preliminary estimate of hectares flooded: the Yangtze Basin, 6 to 8 million hectares; the Huai Basin, 2 million hectares; the Yellow River Basin, none.

This estimate is based on the assumption that the Yangtze flood is of approximately the magnitude and severity of the 1931 Yangtze flood, on reports that the Chinese Communists have not been able to control the Yangtze flood in the Tungting Lake area and from that point downriver to the seas,** on the belief that the Communists have succeeded in protecting the area east of the Grand Canal in Northern Anhwei and Kiangsu, and on the belief that the area north and east of Hou-Yang in Northern Anhwei has escaped flooding on the scale of the 1931 floods. It is estimated that the flooding in the Huai Basin is approximately 40 percent as severe as in 1951.

* Rice, corn, millet, kaoliang, soybeans, peanuts, and sweet potatoes, on a grain equivalent basis, are the summer crops used in this average production per hectare. Eight provinces have been listed previously as being mentioned in flood reports. The province excluded in this crop production average is Shantung.

** Protection of certain urban areas may be an exception to this generalized statement.

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On the basis of 1.5 tons of production per hectare the estimated crop loss would be 12 to 15 million tons. This loss is approximately 10 percent of Communist China's average annual food crop production. Although the winter crop results provide some offset, (about 3 million tons), and although the upper North China plain and Manchuria appear on the way to a much better crop production year than was 1953, the floods in Central China represent a major disaster.

IV. Communist Vietnam.

The entire area of North Vietnam has had a dry winter, and the majority of spring crops appear to have been severely damaged. There are prospects that the "fifth month" rice may be as low as 50 percent of normal, which would be the worst crop since the famine year of 1945.

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APPENDIX

SOURCES

The analyses, estimates, and conclusions contained in this memorandum are based on the following sources: monthly climatic summaries (August 1952 - June 1953) from Air Weather Service, Andrews Field; telegrams and despatches from American Missions in Soviet Bloc countries; FBIS, daily and weekly publications; and FDD translations of Soviet Bloc newspapers.

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