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USSR, Eastern Europe, and China: Winter Grain Outlook

An Intelligence Assessment

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USSR, Eastern Europe, and China: Winter Grain Outlook

Overview

As of early April the outlook for the 1981 winter grain production in the USSR and Eastern Europe is fair to good; for winter grains in China prospects are somewhat better.

Winter grain output in the USSR normally contributes roughly one-third of total grain output. The winter crop this year is not likely to be much above the average of the past five years, about 64 million tons. A crop that size would almost certainly prevent Moscow from achieving its planned 1981 total grain harvest of 236 million tons. Even so, a harvest well above the 205 million tons averaged since 1975 is still possible

Our initial assessment of winter grains for the USSR takes account of problems in much of the northern winter grains area that are not completely offset by unusually favorable crop conditions in the southern region. Wet weather in the northern European USSR disrupted the planting schedule last fall, resulting in a sown area some 3 million hectares below the plan. Conversely, in the important winter wheat areas of the southern European USSR, last fall's planting targets were overfulfilled, soil moisture favored plant development, and mild winter weather kept crop damage light

An average winter crop will do little to help Moscow resolve food and livestock problems that have developed in the wake of poor harvests in 1979 and 1980. Although record grain imports have helped to stretch livestock feed supplies, livestock productivity targets for 1981 appear out of reach. Supplies of meat and milk are likely to remain depressed into 1982, and livestock numbers will probably level off or decline

In Eastern Europe winter grain production should approach the average of recent years—46.5 million tons—but prospects differ markedly from one country to another. Crop conditions have been good in Bulgaria, Czechoslovakia, East Germany, and Hungary, but problems have beset Poland, Romania, and Yugoslavia. Wet weather during fall planting delayed or precluded winter grain sowing in parts of Poland and Yugoslavia, while in Romania low soil moisture reserves generally hindered crop development. All of the sowing difficulties could be offset to some degree by increased plantings of spring grains and by good spring and summer weather.

Among East European countries, a poor winter grain crop would be most serious for Poland; like the USSR, it is currently facing serious food shortages as a result of poor harvests in 1979 and 1980. The shortages reflect not only supply problems but also increased hoarding by consumers in recent weeks. Grain imports are already at record levels, livestock inventories have fallen sharply, and a nationwide meat rationing program was implemented in April. A poor or even an average winter crop would undermine Warsaw's efforts to deliver on its promises to improve food availability

Prospects for winter grain production are better in China. Wet weather caused some problems with planting last October, but clear, warm weather for several weeks afterward permitted the successful conclusion of the sowing campaign in most places. The Chinese have probably overdramatized drought conditions in Hebei and adjacent provinces. World Meteorological Organization (WMO) weather data and LANDSAT imagery indicate that problems are extremely localized. Chinese reports of a slight reduction—perhaps 2 percent—in the total winter crop area may reflect administrative decisions rather than seeding problems; some marginal land in North China and the Huai He area have probably been retired or planted to crops other than wheat. Crop conditions since planting have been generally good. Snow cover has been light in much of the main winter wheat area, but temperatures have not been cold enough to cause any significant damage

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USSR, Eastern Europe, and China: Winter Grain Outlook

Although it is early in the crop year, our analysis indicates that winter grain production in 1981 is likely to be near average in the USSR and Eastern Europe, and average or above in China.[1] Poor weather last fall caused some problems with planting in nearly all of the countries. Problems were most pronounced in the USSR, Poland, and Yugoslavia where the seeded areas fell substantially short of plan; it is principally that shortfall that now limits the size of the winter grain harvest. In all areas the winter has been relatively mild; most of the occasional cold snaps were preceded by snow, which protected the crops and reduced winter damage.

The winter grain harvest is still some months away. In the USSR and Eastern Europe, crops gradually come out of dormancy in late March and early April, with the harvest usually beginning in mid-June. In China the harvest begins earlier, in some areas by early May.

This year's winter grain crop is especially important. A good harvest is a necessity if the USSR and Poland are to begin recovery from two successive crop failures. Record total grain harvests have been produced in China for the past two years, but high population growth plus the desire to upgrade diets makes a good grain harvest essential there as well.

USSR

Although it is too early to estimate 1981 winter grain production with any precision, the harvest is not likely to be much above the 64-million-ton average of the past five years. Recent production has ranged from a record 86 million tons in 1978 to only 49 million tons in 1979.

Winter grain prospects, thus far, were largely determined by the weather during planting last fall. In most of the northern USSR, conditions were poor and the outlook for the crop is not good. As a result of excessive rainfall, about 3 million hectares—8 percent of the country's total winter grain area—were not planted. Moreover, plant germination on nearly one-third of the total area sown was adversely affected by waterlogged soils and below-normal temperatures. By contrast, conditions in southern winter grain areas were mostly beneficial, and good to excellent yields are possible there. Temperatures were warm, rainfall was adequate, and seeding problems were minimal.

[redacted] LANDSAT shows the marked differences between north and south:

- In the northern European USSR, the principal winter rye area, heavy rains and partly flooded fields disrupted fall sowing, with optimum planting schedules missed almost everywhere by two to three weeks. In the late fall, abnormally cool and wet weather resulted in spotty and uneven plant development. Soviet press accounts have underscored several cropping problems during the winter—most specifically ice crusting—but [redacted] does not support these reports.

- In the southern European USSR, the main winter wheat area, conditions have been unusually favorable. Planting was completed on time and seeding targets were overfulfilled in both the Ukraine and the North Caucasus. From Moldavia east to the middle Volga Valley, [redacted] LANDSAT [redacted] shows vigorous uniform crop development. If the currently high soil moisture reserves continue through the late spring, a bumper harvest for this region could result.

Thus far winterkill has not been significant in either the northern or southern areas. In the eastern Black-Earth region and middle Volga Valley, where snow accumulation was light, deep frosts in late February and mid-March probably caused some locally heavy damage. Elsewhere losses have been relatively minor. During severely cold periods most winter grains were

[1] This is the first in a series of grain forecasts to be published monthly during the 1981 crop season.

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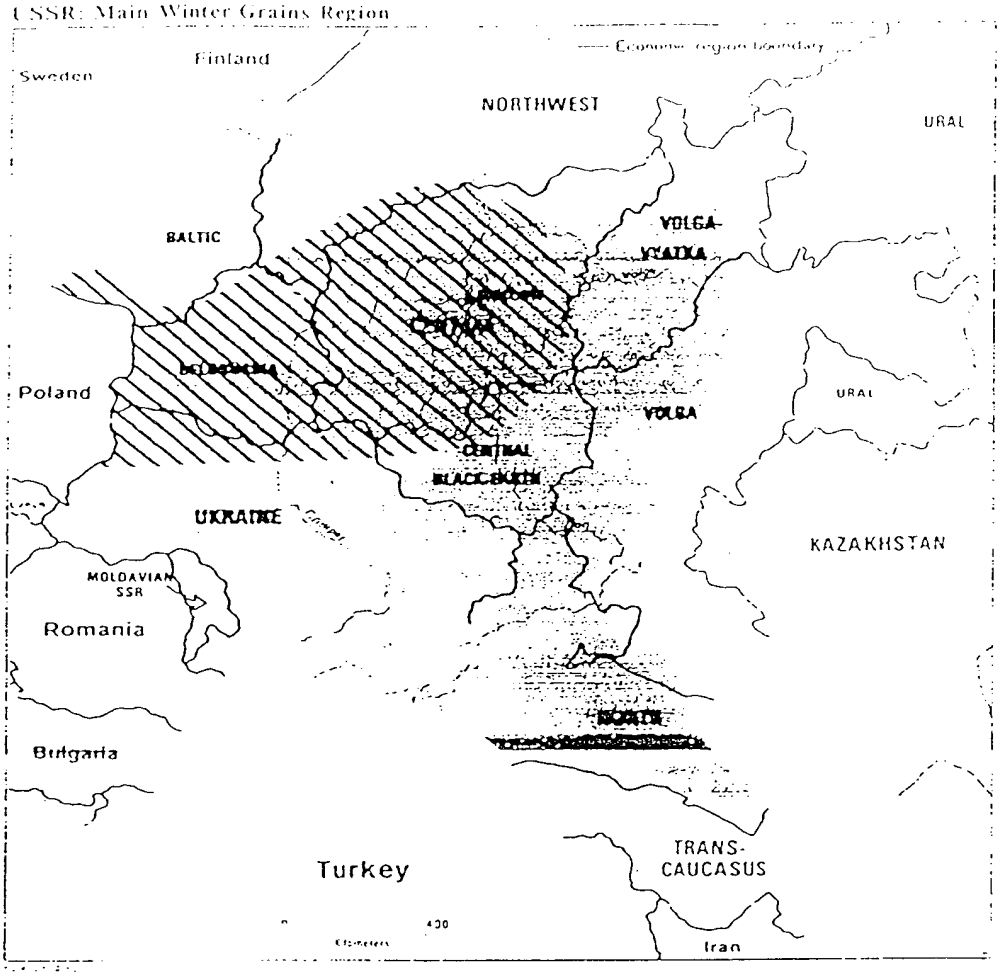
USSR: Main Winter Grains Region



Area where excessively wet field conditions caused significant planting difficulties in the fall of 1980

blanketed by adequate snow cover. In recent years, winterkill losses have averaged nearly 20 percent for the country as a whole.

It is unclear, at this early stage, how adverse conditions in the north and excellent conditions in the south will affect the total winter grain crop. Many of the early-season problems in the northern European USSR are now irreversible, and maximum winter grain potential has been reduced. The amount of reduction is unknown because winter grains are still vulnerable to sharp fluctuations in the weather; alternating periods of thawing and freezing are common through the end of April and can cause significant damage to seedlings coming out of dormancy. Normal weather conditions during the spring would result in an average crop, however. If weather conditions are excellent, an above-average harvest is still possible largely because some southern European grain areas could produce record winter wheat yield.

On the assumption of an average winter crop, this year's total grain output in the USSR will almost surely fall below the 1981 target of 236 million tons. An above-average total grain harvest is, however, still possible. Fall and winter losses can be offset to some

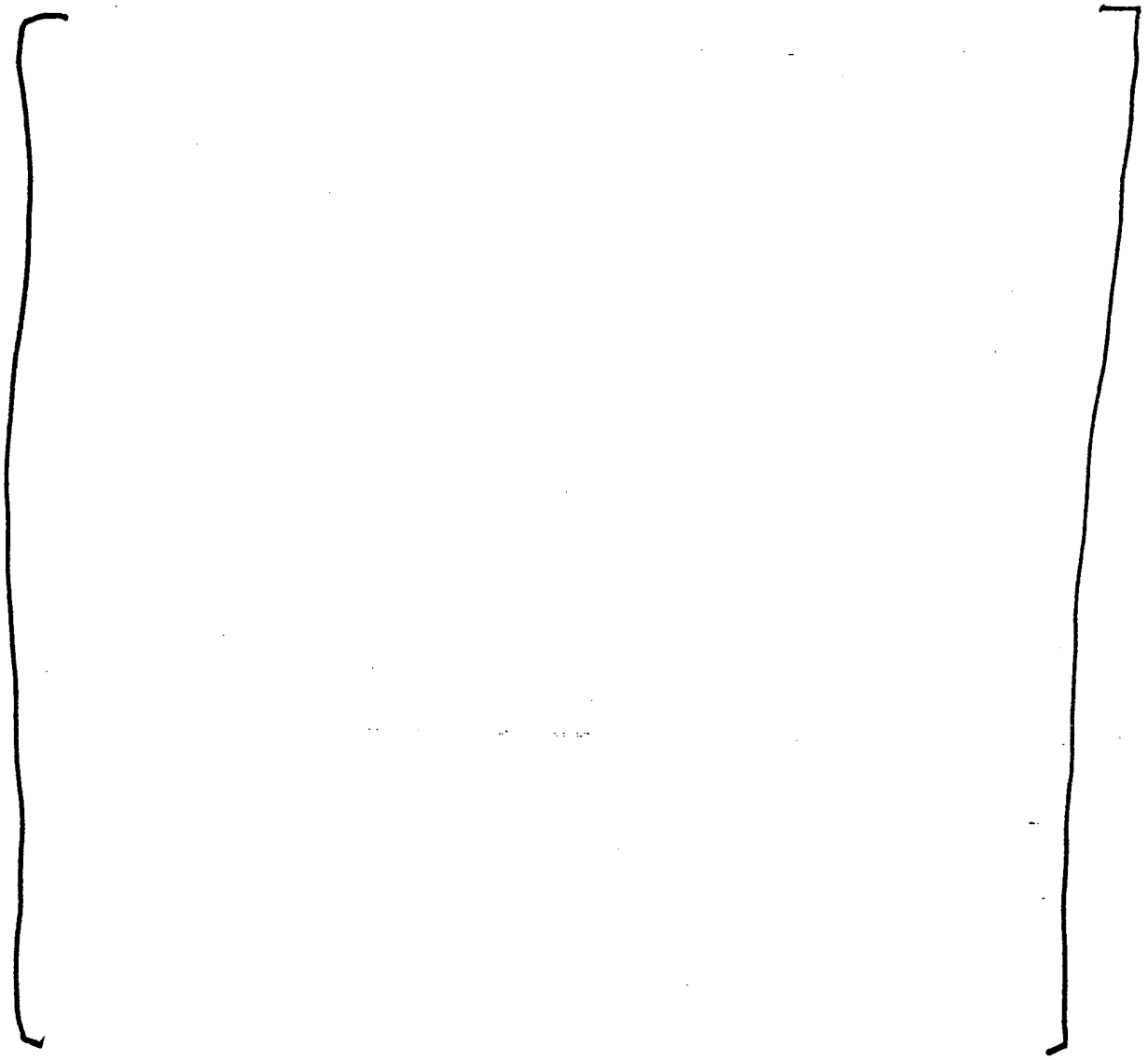


Table 1

USSR: Winter Grains [1]

	1971-75	1976	1977	1978	1979	1980	1981
Area (million hectares)							
Sown	34.4	37.5	38.5	38.5	34.5	38.0	35
Harvested	28.4	27.5	28.9	32.3	26.5	32.7	
Winterkill [2] (percent)	17	27	25	16	23	14	
Production (million tons)	55.6	61.0	63.5	85.9	49.3	62.0	

[1] Winter wheat, winter rye, and winter barley.
[2] Includes some acreage that is green chopped for forage.
E Estimate

extent by reseeding with spring barley; moreover, the successful planting and germination of spring grains would generally boost prospects for the total grain harvest. If summer weather conditions are favorable, a crop substantially above the 205-million-ton average of the past five years would result. On the other hand, if the winter grain crop is considerably smaller than we now expect, Moscow will be hard pressed to avoid a poor total harvest for the third consecutive year.

Poor harvests the last two years have made this year's grain crop especially important. Problems with the 1981 crop would make it difficult to rebuild or even maintain animal inventories. Livestock feed supplies have been stretched to the limit and reserves are largely depleted. Indeed, even if the winter grain harvest is somewhat larger than we now project and spring pastures are accessible early, the current Soviet livestock picture is not promising. Record grain imports have probably allowed many areas to forestall distress slaughtering, but targets for increased milk and meat output in 1981 appear well out of reach. Meat and milk production are likely to continue to be depressed into 1982, and total livestock numbers will probably level off or decline.

Eastern Europe

Winter grain production in Eastern Europe as a whole is likely to be about average. Prospects vary by country. In Bulgaria, Czechoslovakia, East Germany, and Hungary, growing conditions have been favorable and prospects are good for above-average output. Minor planting delays caused by wet field conditions last fall were overcome by good soil moisture levels and favorable weather from germination to the onset of winter dormancy, which fostered healthy plant development. Reports from these countries are optimistic: Bulgarian officials were pleased with the fall sowing campaign and announced that wheat planting was completed within the optimum period; in East Germany, plant germination was average to above average, and winter grain stands appear vigorous; winter grains in the major producing regions of Czechoslovakia are in good condition. In Hungary there have been few reports, but winter grains in fair to good condition prior to winter dormancy. On the average, winter grains account for nearly one-half of the total East European grain output.

Prospects are less favorable for the remaining East European countries. Poor fall weather precluded fulfilling winter sowing plans and reduced the potential winter grain yields in these areas, making it likely that these countries will harvest a below-average winter grain crop:

- In eastern Poland, excessively wet field conditions last fall delayed or precluded sowing of winter grains. As a result, fall-sown grains occupy an area of only 4.4 million hectares, 12 percent below plan and the smallest sown area since 1975. Reports that crop conditions prior

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Eastern Europe: Winter Grain Production
as a Percent of Total Grain Production (1975–79)

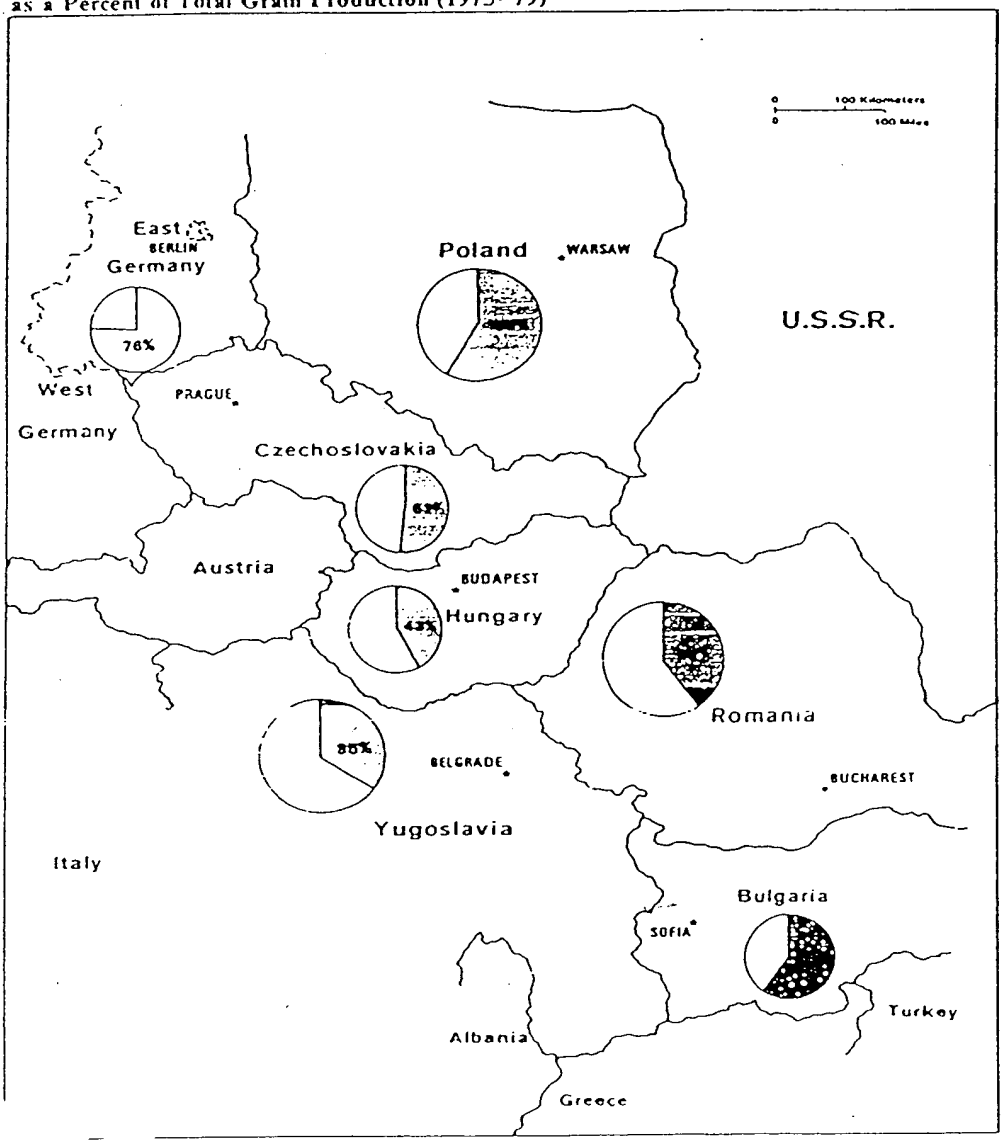

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Table 2

Winter Grains in Eastern Europe

	Area (Million Hectares)				Production (Million Tons)			
	1975-79 Average	1978	1979	1980 *	1975-79 Average	1978	1979	1980 *
Eastern Europe	15.1	15.5	14.4	14.8	46.3	51.7	40.6	47.4
Northern Countries	8.0	8.2	7.6	7.8	23.5	26.8	20.5	23.6
Czechoslovakia	1.4	1.4	1.3	1.3	5.1	6.0	4.2	5.1
East Germany	1.9	2.0	2.0	1.9	6.8	7.5	6.9	7.3
Poland	4.7	4.8	4.4	4.6	11.5	13.2	9.4	10.7
Southern Countries	7.1	7.3	6.8	7.0	22.8	24.9	20.0	23.9
Bulgaria	0.9	0.9	1.0	0.9	4.8	4.8	4.7	4.6
Hungary	1.4	1.5	1.3	1.4	5.2	6.1	4.1	5.8
Romania	2.9	3.0	2.9	2.9	7.3	8.4	6.5	8.0
Yugoslavia	1.8	1.9	1.7	1.7	5.5	5.6	4.8	5.3

* Area and production figures are estimates.

to the onset of winter dormancy were the worst in five years; fall weather endangered the winter grains in most eastern provinces and inadequate snowcover exposed plants to killing temperatures in mid-November and early December. It is too early to estimate the full extent of winterkill, however.

- Planting difficulties similar to those experienced in Poland also reduced the area seeded in Yugoslavia. The area sown to wheat — which normally accounts for more than 90 percent of Yugoslavia's winter grain production—declined almost 300,000 hectares, 18 percent below the average of recent years. To compensate for the decline, and permit a normal harvest, wheat yields would have to surpass the 1977 record.

- Potential winter grain output in Romania has been reduced by inadequate soil moisture last fall, which resulted in incomplete plant germination. Moreover, many of the surviving winter grain plants entered dormancy weak and underdeveloped, a situation corroborated by [redacted] that shows nonuniform plant growth in parts of the Danube Valley — a major grain-producing region.

It is still too early to assess fully the impact of these developments on total 1981 East European grain production. Based on weather conditions thus far, we estimate that the area lost to winterkill this year has been small. Snow cover has been adequate and few potentially damaging cold spells have occurred. In Romania soil moisture reserves were replenished by December. Although the rainfall came too late to aid prewinter crop development, the increased soil moisture levels will promote growth of the winter grains as they emerge from dormancy and will provide a good basis for spring-sown crops. In Yugoslavia, the shortfall in sown area could be offset by increased plantings of spring grains. In Poland, however, significant shortages of seed grain and fertilizer will probably preclude a full recovery. Achieving good total grain harvests in all these countries, however, will depend almost entirely on favorable weather conditions this spring and summer.

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Even if the cumulative winter grain output is near average for Eastern Europe, Poland will be hard hit. Winter grains account for about 60 percent of Poland's grain crop. The country already faces serious food shortages as a result of poor grain harvests in 1979 and 1980, and disastrous production of fodder crops—potatoes, sugar beets, and hay in 1980. Heightened political tension in recent weeks has increased panic buying and consumer hoarding, further aggravating the food supply situation. In Gdansk, where shortages are reportedly acute, a formal rationing plan for a variety of foodstuffs went into effect in March

Prospects for the coming year are dismal. How bad the situation becomes will depend heavily on the willingness of foreign creditors to permit grain imports to remain at record levels. As matters stand, livestock inventories have fallen dramatically, and the Poles expect meat production to decline at least 10 percent in 1981 after an estimated 5-percent drop last year. A nationwide meat rationing program, implemented on 1 April, appears to have won initial consumer acceptance; and, indeed, lines are already noticeably shorter in Warsaw. A poor harvest in 1981 would be another major setback to the Kania regime's program to increase food supplies

In recent weeks Warsaw has enacted several measures in an attempt to ease the food crisis. Soldiers previously employed in agriculture will be given early discharges to aid in the spring sowing campaign. In addition, mobile military workshops will be utilized for farm equipment repair; about one-fourth of the tractor fleet is reportedly idle

China

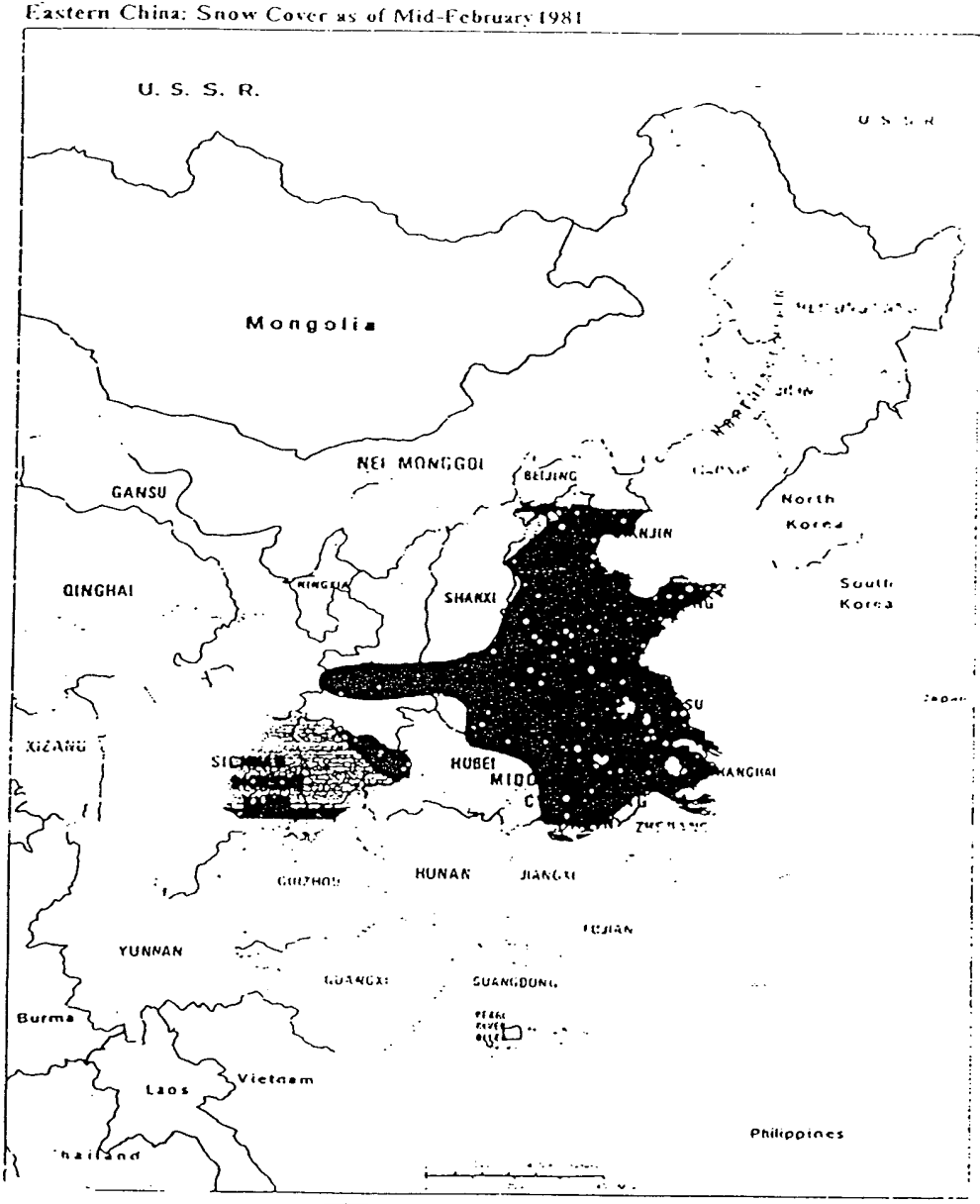
Prospects for winter grains in China are good. Contrary to recent Chinese claims, we have no evidence that drought conditions had any significant impact on the planting of winter grains last fall. There may have been some locally severe drought problems in parts of Hebei Province, but the province's monthly precipitation pattern has been near normal. Winter grains normally account for about one-fifth of China's total grain harvest. Sowing of winter grains was completed by mid-October except in parts of Anhui, Hubei, Jiangsu, and Shaanxi Provinces. Fall sowing was delayed in these areas by wet weather and by flooding that required field drainage and dike repairs. By mid-November, however, sowing of fall crops was completed almost everywhere. Good soil moisture and mild temperatures favored plant germination and development

Weather conditions during the overwintering period have been mostly favorable. Although there has been little or no snow cover in the principal winter grain areas, mainly the North China Plain and the Sichuan Basin, generally mild temperatures have lessened the threat of winterkill. If the weather continues to be moderate into the early spring, winter damage will be no greater than normal

According to a Chinese announcement last September, this year's winter grain area was somewhat lower than normal. Although the size of the reduction has not been reported, we judge that it was minor, probably not exceeding 2 percent of the area harvested in 1980. A reduction this size should not markedly affect this year's harvest because the area taken out of production was confined largely to low-yielding marginal wheat land in North China, particularly the Huai He area. This land was to be planted to other crops in the spring, perhaps a reflection of Beijing's efforts to rationalize agricultural production by growing crops only in areas most suited to them

Over the past three years, the Chinese have achieved their three largest crops ever—305 million tons in 1978, 332 million tons in 1979, and about 316 million tons in 1980. A bumper harvest is needed every year, however, in order to accomplish Beijing's food policy objectives: to improve diets in urban areas, to increase livestock numbers and quality, and to allow peasants to retain more of each harvest. Annual production increases of 2.0 to 2.5 percent should allow Beijing to continue to improve living standards and avoid a steady rise in grain import

Eastern China: Snow Cover as of Mid-February 1981



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Appendix

USSR, Eastern Europe, and China: 1980 Crop Results

In 1980 the Soviet Union suffered its second consecutive grain shortfall, largely the result of an unusually cold and wet growing season combined with weather problems during the harvest throughout the European USSR. Similar weather conditions also reduced output in Poland, but record and near-record harvests in four out of seven countries boosted grain production for Eastern Europe as a whole to the second highest output ever. The grain harvest in China was the second largest ever, only 4 percent below the record

USSR

The total grain harvest in the USSR amounted to 189.2 million tons, only about 10 million tons better than the disastrous crop of 1979. Cold, wet weather persisted throughout the entire crop season in the European USSR. Spring seeding was delayed two to three weeks, and plant development was retarded in most major producing areas. The harvest was late in the northern areas, and because of wet conditions was unusually difficult. Yields of barley and oats were among the worst of the past decade. At 98.1 million tons, production of wheat was near the recent average but significantly below the 1978 record of 121 million tons

Except for cotton, production of all the other major crops also suffered. Output of sugar beets, potatoes, and sunflowers was well below both annual targets and recent averages. Indeed, production of sunflowers fell to the level of the early 1960s. Cotton production reached 10 million tons, about 800,000 tons better than the record set in 1979

Eastern Europe

Based on preliminary yield data, 1980 grain production in Eastern Europe is estimated to be about 95 million tons, a crop second in size to the record 96.2-million-ton harvest in 1978. Record production in Hungary and Romania—combined with bumper crops in Czechoslovakia and East Germany—more than offset a major grain shortfall in Poland and near-average harvests in Bulgaria and Yugoslavia

Crop conditions were somewhat cooler and wetter than normal everywhere in Eastern Europe except Poland. Such conditions benefit the development of small grains but were less beneficial for coarse grains, largely corn. Record wheat and barley crops were harvested in several of the countries but coarse grain crops did not reach optimum yields

Table 3

Million Tons

USSR: Major Crop Production

	1971-75	1976	1977	1978	1979	1980
Grain	181.6	223.8	195.7	237.4	179.2	189.2
Sugar beets	76.0	99.9	93.1	93.5	76.2	79.6
Sunflowers	6.0	5.3	5.9	5.3	5.4	4.2
Potatoes	89.8	85.1	83.7	86.1	91.0	66.9
Vegetables	23.0	25.0	24.1	27.9	27.2	25.9
Cotton	7.7	8.3	8.8	8.5	9.2	10.0

Table 4

Million Tons

Grain Production in Eastern Europe [a]

	1975-79 Average	1975	1976	1977	1978	1979	1980 Estimate
Eastern Europe	92.6	88.1	94.3	93.7	96.2	90.7	95.6 [b]
Northern countries	38.4	37.8	38.3	38.4	42.3	35.3	38.7
Czechoslovakia	9.8	9.3	9.2	10.3	11.0	9.2	10.8
East Germany	8.9	8.9	8.2	8.7	9.8	8.8	9.6
Poland	19.7	19.6	20.9	19.4	21.5	17.3	18.3
Southern countries	54.2	50.3	56.0	55.3	53.9	55.4	56.9
Bulgaria	8.1	7.9	8.7	7.8	7.7	8.5	7.7
Hungary	12.2	12.1	13.3	12.3	13.3	12.0	13.6
Romania	18.4	15.3	19.8	18.6	19.0	19.3	20.2
Yugoslavia	15.5	15.0	16.2	16.6	13.9	15.6	15.4

[a] Grains include wheat, rye, barley, oats, corn, mixed grains; in the southern countries, rice is also included; in Bulgaria, legumes.
[b] Because of rounding, components may not add to totals shown.

Table 5

Million Tons

China: Grain Production

	1976	1977	1978	1979	1980
Total Grain	285	288	305	332	316 [a]
Early harvest	100	101	117	126	113
Of Which:					
Summer harvest [b]	45	46	59	66	59
Late harvest	185	181	188	206	202

[a] A CIA estimate. The Chinese have unofficially reported a 316 to 320-million-ton harvest for 1980. Final grain production figures will be released later this spring by the State Statistical Bureau.
[b] Largely winter grains (mostly wheat, some barley, and edible legumes) and summer harvest miscellaneous grains.

Grain output in Poland was the second lowest in a decade. Conditions were much like those in the European USSR. Prolonged heavy rains and abnormally cool temperatures leached valuable soil nutrients, retarded normal crop development, and generally disrupted the harvest.

China

The total 1980 grain harvest in China is now projected at 316 to 320 million tons, second only to the 332-million-ton crop harvested in 1979. Of the various grain crops only intermediate rice production increased over the record output of 1979, the result of a larger planted area and an increase in the planting of hybrid rice. The early harvest, mainly winter grains, was probably some 6 to 8 million tons less than it was in 1979. Late harvest production also fell below the 1979 level, but the reduction was proportionately less than for the early harvest.