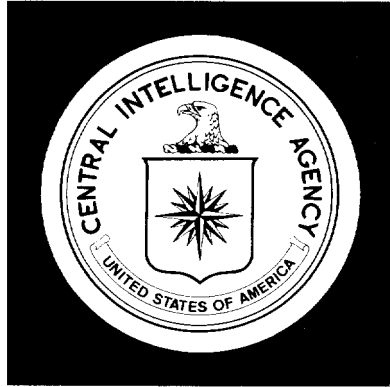


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*USSR—Status of the 1976/77  
Winter Grains*

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GC AB 77-001  
31 January 1977

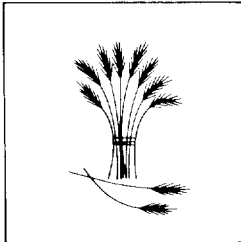
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## Environment Analysis Brief

### USSR—Status of the 1976/77 Winter Grains

#### Summary

1. USSR winter grains have been sown on about 38½ million hectares, the largest area since 1968 and one million hectares greater than last year.
2. Most of the fall-sown grains entered dormancy with good to excellent soil moisture reserves.
3. Adequate snow cover over most of European USSR has kept winterkill losses well below the annual average of 15–20%.

#### Crop Status

As of late January crop prospects remain excellent for the 1977 Soviet winter grains. In contrast to the fall of 1975, this year's winter crops went into dormancy in very good condition with favorable plant development and high soil moisture reserves. LANDSAT imagery taken last fall over the southern Ukraine corroborates good soil moisture reserves as reflected in the improved crop vigor levels (see images).

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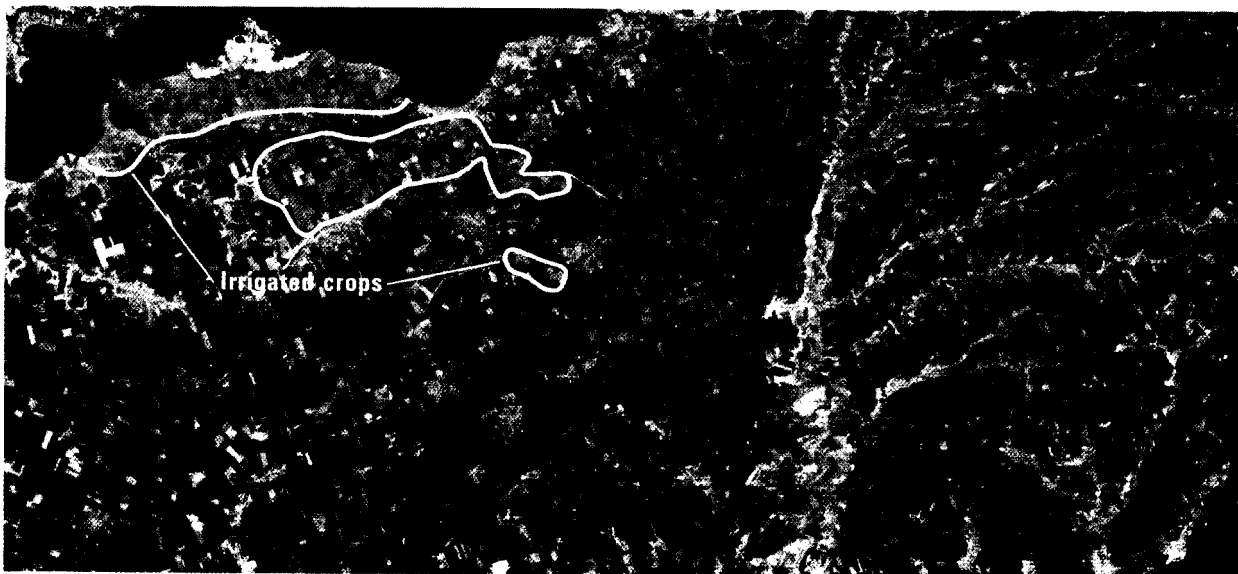
Note: This paper was produced by the Office of Geographic and Cartographic Research and coordinated with the Office of Economic Research. Comments and questions may be directed to [REDACTED] Code 143, Extension 3748. Date of information 26 January 1977.

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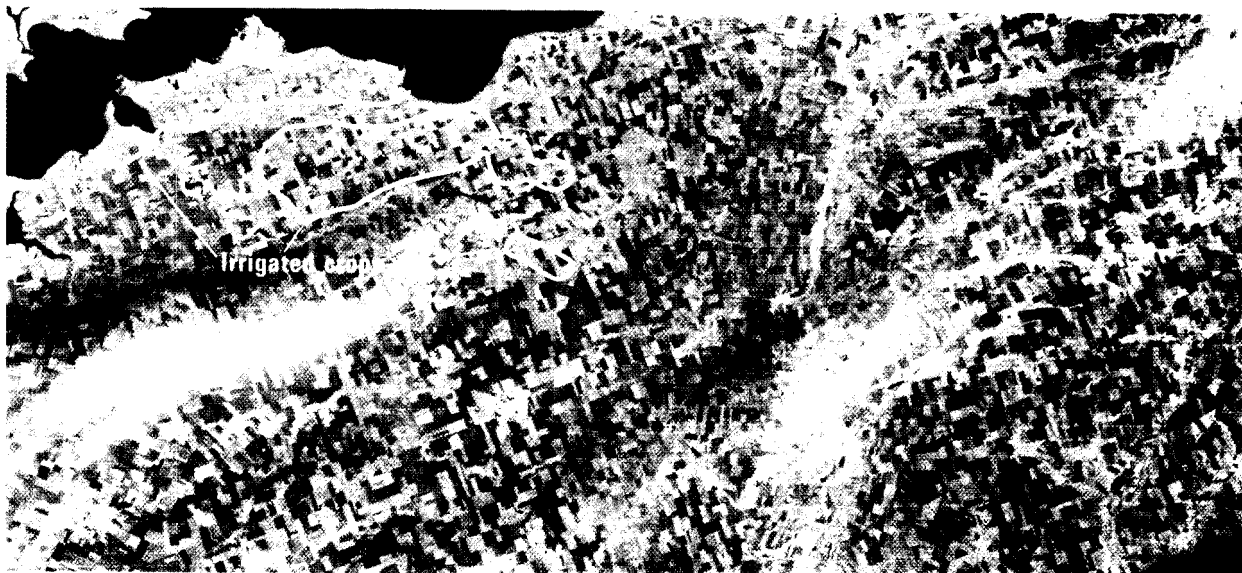
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Image A: Landsat II Imagery, Fall 1975, Zaporozh'ye Oblast



Lack of vivid infrared reflectance (IR) from non-irrigated area indicates low plant vigor of winter crops.

Image B: Landsat II Imagery, Fall 1976, Zaporozh'ye Oblast



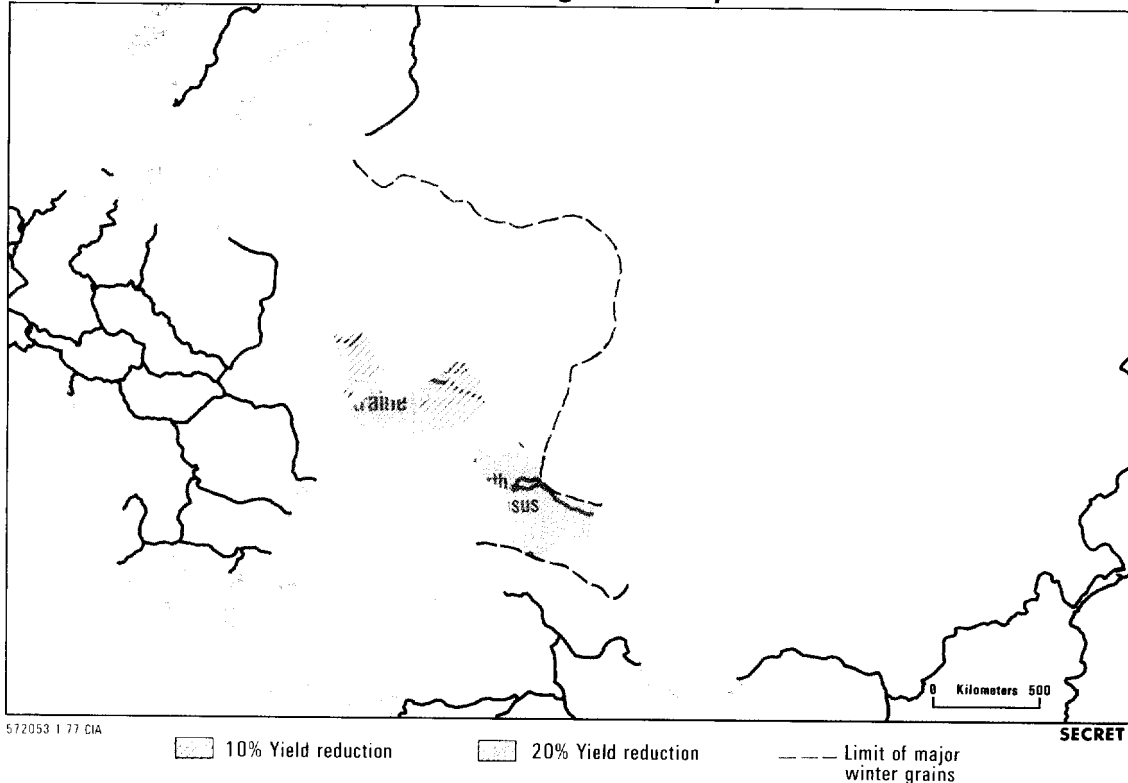
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Improved crop vigor one year later. Irrigated and non-irrigated crops have equally good IR-return.

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**USSR: Estimated Winter Kill Through January 1977**

Nevertheless, the winter has not been problem-free. During the first week of January winterkill damage occurred in parts of the central and eastern Ukraine as well as in the North Caucasus (see map). Since most of this area was not affected for more than two to four days losses are expected to be minor.<sup>1</sup> So far, winterkill estimates have reduced potential production about 2 million tons (less than 4 percent) out of an area with a potential yield of over 60 million tons. However, the full extent of this year's winterkill will likely be determined by melting and refreezing cycles which frequently occur in February and March. Normal winter losses are 16 percent and range as high as 30 percent.

Winter grain sowing was expanded in the fall of 1976 to cover 38.5 million hectares, the largest area since 1968 and one million hec-

<sup>1</sup> Winterkill criteria:

Temperatures of  $-20^{\circ}\text{C}$  and below in combination with little or no snow cover (3 cm or less).

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tares greater than last year.<sup>2</sup> Soviet planners had hoped for an area as great as 40 million hectares but a cold snap in the Ukraine in mid-October with early snowfall probably prevented increased sowings. Winter grains (wheat, rye, barley) are higher yielding than spring varieties and generally account for about  $\frac{1}{3}$  of total grain production.

### Outlook

Although prospects for the 1977 winter grain crop are excellent the final outcome will, in large part, depend on weather between the end of dormancy (April) and spring (May-June). Unusually high soil moisture reserves should effectively carry over into spring, providing a good basis for crop development, spring planting and—if necessary—reseeding.

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<sup>2</sup> State and collective farms were officially announced as 36.9 million hectares while private holdings and other state enterprises are estimated at about 1.6 million hectares.

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