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8 September 1987

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MEMORANDUM FOR:

[Redacted]

Chief, East European Division
Office of European Analysis

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FROM:

[Redacted]

Chief, Strategic Resources Division
Office of Global Issues

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SUBJECT:

Romania: Good Winter Grain Harvest, Spring
Grain Prospects Reduced [Redacted]

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1. The attached memorandum is in response to your request for an assessment of 1987 crop conditions in Romania. It is based on unclassified Landsat imagery data [Redacted]

[Redacted]

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2. This assessment was produced by [Redacted]

[Redacted] the Agricultural Assessments Branch, Strategic Resources Division, Office of Global Issues. Comments and questions are welcome and may be addressed to the Chief, Agricultural Assessments Branch, [Redacted]

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[Redacted]

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Attachment:

Romania: Good Winter Grain Harvest,
Spring Grain Prospects Reduced [Redacted]
GI M 87-20155

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[Redacted]

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[Redacted]

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[Redacted]

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SUBJECT: Romania: Good Winter Grain Harvest, Spring
Grain Prospects Reduced [Redacted]

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OGI/SRD/AAB/[Redacted] (4 September 1987)

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Central Intelligence Agency



Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

8 September 1987

Romania: Good Winter Grain Harvest,
Spring Grain Prospects Reduced [redacted]

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SUMMARY

We estimate that Romania's 1987 grain crop will reach near-average levels. Although a decline from the 1986 record, the 1987 output will be larger than the mediocre harvests of 1983-85. Winter grain conditions were generally favorable, as the crop recovered from a dry fall and had enough soil moisture from spring rains to achieve above-average yields. Dry conditions set in, however, to dim prospects for the spring grain crop, and yields are likely to be average. [redacted]

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This memorandum was prepared by [redacted]
[redacted] the Agricultural Assessments Branch, Strategic
Resources Division, Office of Global Issues. Comments and
questions may be directed to [redacted] Chief, Agricultural
Assessments Branch, Strategic Resources Division, [redacted]

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Romania: Good Winter Grain Harvest,
Spring Grain Prospects Reduced []

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Introduction

Commentary on grain production in the Romanian media has usually been incomplete and inaccurate, especially concerning harvest results. In past years Romania often announced a record harvest at the end of the season even though the figures were inconsistent with earlier, mid-season reports of unfavorable crop conditions. Press reports this spring and summer were generally upbeat about the condition of winter grains: they emphasized that soil moisture over most of the country was good, better than in most years, and indicated that the winter grain harvest began on schedule and was nearly complete by early August. The growing season was not problem free, however--the eastern region reportedly had been dry since last fall and winter grains there needed irrigation. Moreover, growing conditions for the spring grain crop reportedly became less favorable as of mid-August: dry weather, only partially relieved by periodic rainfall, made irrigation efforts necessary. []

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This memorandum assesses Romanian 1987 grain crop conditions in order to verify and complete information given in the Romanian press and to help judge the reliability of official harvest figures when they are announced. Our assessment is based on USAF weather data, Landsat imagery, []

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Grain Crop Assessment

Winter grains comprise about 40 percent of Romania's total grain production and are planted in September and October for harvest in July of the following year. Spring grains, mostly corn, account for 60 percent of total production and are planted in April for harvest the following October. Romania also plants some corn as a second crop after winter grains are harvested. However, this corn is usually planted too late to be harvested as grain and is cut for fodder in most years. []

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Winter Grains

Our analysis of Landsat imagery and US Air Force weather data indicates a good winter grain crop but not a record one. Some episodes of unfavorable weather during the growing season reduced yields from optimum levels:

- o US Air Force weather data indicated that a dry fall caused winter wheat and barley to get off to a weak start. Precipitation from August through December of 1986 was below normal with rainfall in November (right after planting) reaching only 10 percent of normal.

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- [REDACTED]
- o Weather data and Landsat vigor analysis showed two areas where crops were stressed from lack of moisture this spring (see Figure 1). Much of the northeast remained dry since last summer and a portion of the south became dry in June. Landsat vigor analysis during flowering (early to mid-June) showed that crops in these areas were only fair (see Table 1). [REDACTED]

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Table 1
Vigor Analysis

<u>State of Crop</u>	<u>Probable Yield (Percent of Historical Maximum)</u>
Good	75 - 100
Fair	45 - 74
Poor	0 - 44

(This scheme has been validated on crops in other parts of the world, but is applicable to all regions. It is based on vigor analysis, stand density, soil moisture and degree of cumulative plant stress.)

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[REDACTED]

While these problems have reduced yields, overall conditions have been favorable:

- o Analysis of weather data indicated that near normal precipitation during the winter and spring brought soil moisture to adequate levels across most of Romania. Generally cool temperatures through flowering benefited winter grains.
- o Landsat vigor analysis during flowering showed good crops in most areas of Romania, indicating above-average yield prospects for winter grains. [REDACTED]

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Spring Grains

Our analysis indicates that growing conditions for spring grains were less favorable than for winter grains and average yields are likely:

- o Landsat vigor analysis during flowering in July showed only fair to good conditions, but the healthiest crops were seen in the major agricultural area in the south (see Figure 2). After flowering, however, Landsat coverage in late July and early August indicated that crop vigor in some areas of the south had deteriorated to

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[Redacted]

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fair. Other regions of the country had maintained a fair crop vigor. [Redacted]

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- o Weather data showed that April and May rainfall was followed by dry conditions from June through mid-August. July rainfall over the whole country was only 60 percent of normal and was accompanied by hot temperatures. The southern region, however, was fortunate to receive timely rainfall in early July during the flowering period. [Redacted]

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Outlook

We believe that fluctuating growing conditions--generally favorable for winter grains and turning unfavorable for spring grains--will hold Romania's 1987 grain production to near-average levels. Although a decline from last year's record harvest, the 1987 crop will be an improvement over the mediocre harvests of 1983-85. Weather in the coming weeks, however, will determine the final results. Specifically:

- o Ideal conditions--sufficient rainfall and warm temperatures well into the autumn--would aid the harvest of spring grains and would allow more of the second crop of corn to be harvested as grain. An unusually good second crop of corn helped Romania achieve a record grain harvest in 1986, according to the US Agricultural Counselor.
- o On the other hand, further deterioration in the weather could result in below-average yields for spring grains. Hot, dry weather, an early onset of winter, heavy downpours during the harvest, or a combination of these conditions could dim production prospects. [Redacted]

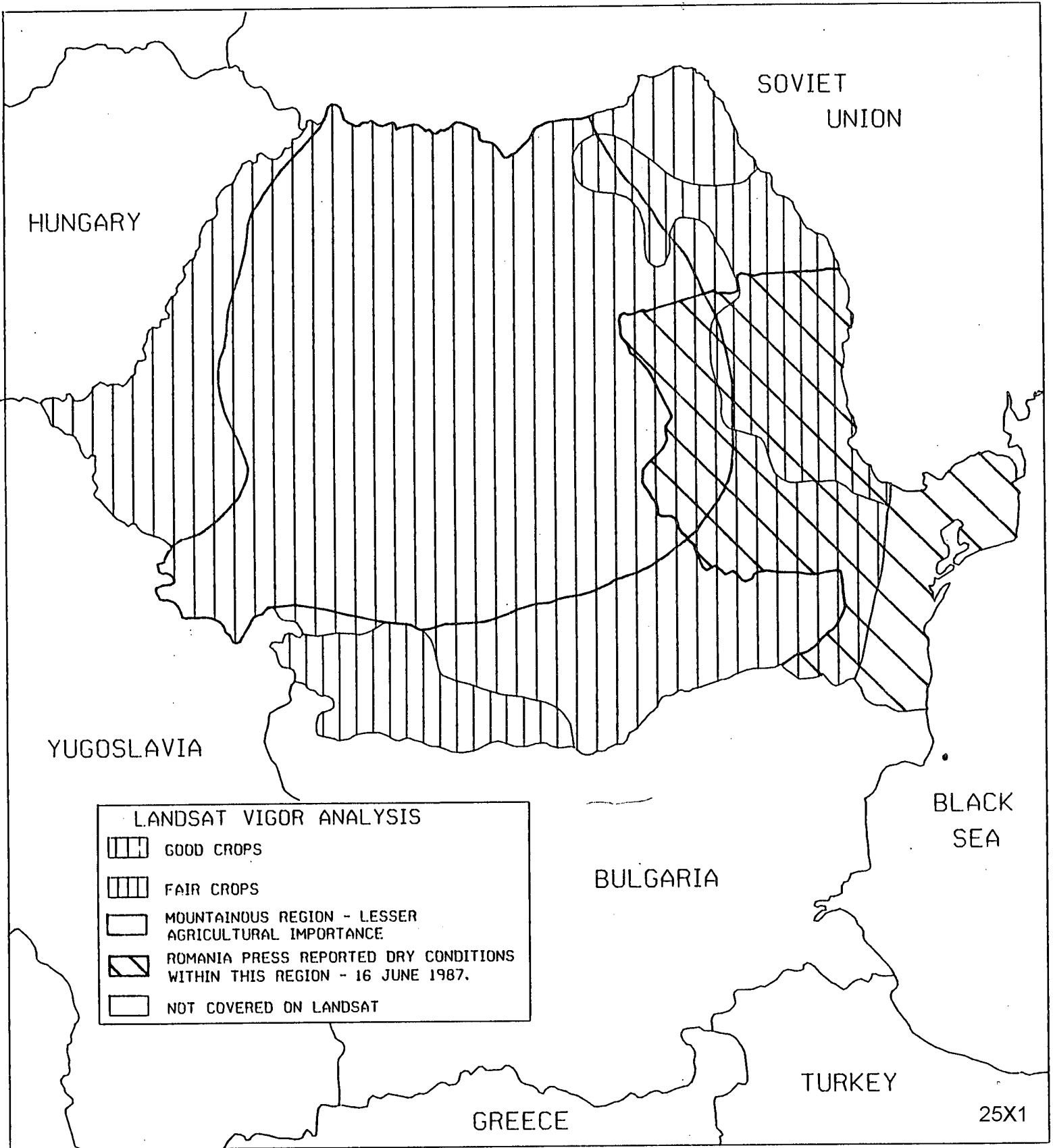
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ROMANIA: WINTER GRAIN CROP VIGOR, JUNE 1987

FIGURE 1



ROMANIA: SPRING GRAIN CROP VIGOR, JULY 1987

FIGURE 2

