Title of Investigation: 28990 Investigation of Environmental Change Pattern in JAPAN

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Subject

1. Investigation of Soil Erosion in Hokkaido which is caused by Thawing of Soil Water in Late Spring

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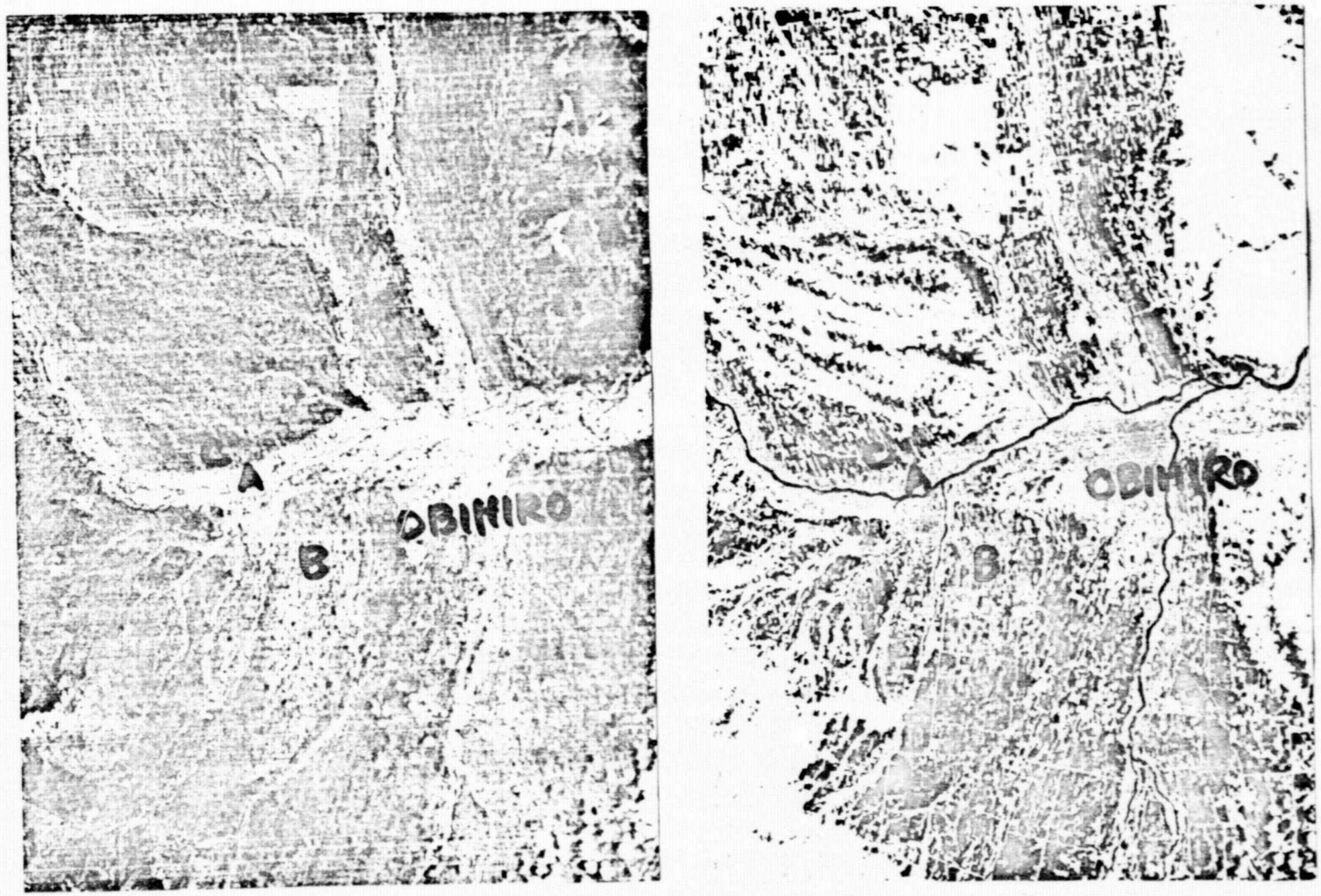
Distribution of density response was determined about two scenses, the one obtained on 11 June 1975, the other, 24 May 1973, in the same test area (figure-1). Results are showed in figure-2.

The reflectance of 6, 7-bands is larger in the imagery of June than that of May. This fact is attributed to the increased crop coverage due to the seasonal difference between May and June, because in this district in Hokkaido, only wheat and grass show considerable coverage in May, and wheat grows not so large in this season yet, on the other hand, in June, wheat grows to cover nearly 100% of the soil surface and sugar-beet also grows to show about 40% coverage.

Each of three soil types (Alluvial soil, Andosol-Brcwn and Andosol-Black) has its own characteristic reflectance response among four bands in the imagery of May. This relationship is also recognized in the imagery of June, when the soils are already covered by crops to some extent.

The rectangular shapes of individual fields where wheat or grass were planted are distinguished clearly by looking over these enlarged imageries of June. Therefore, it may be possible to observe the status of crops more in detail by enlarging these imageries to a still larger scale.



(a) Band 5 image

(b) Band 7 image

Fig.1 Selected test site (A: Alluvial soil, B: Andosol-Brown, C: Andosol-Black)

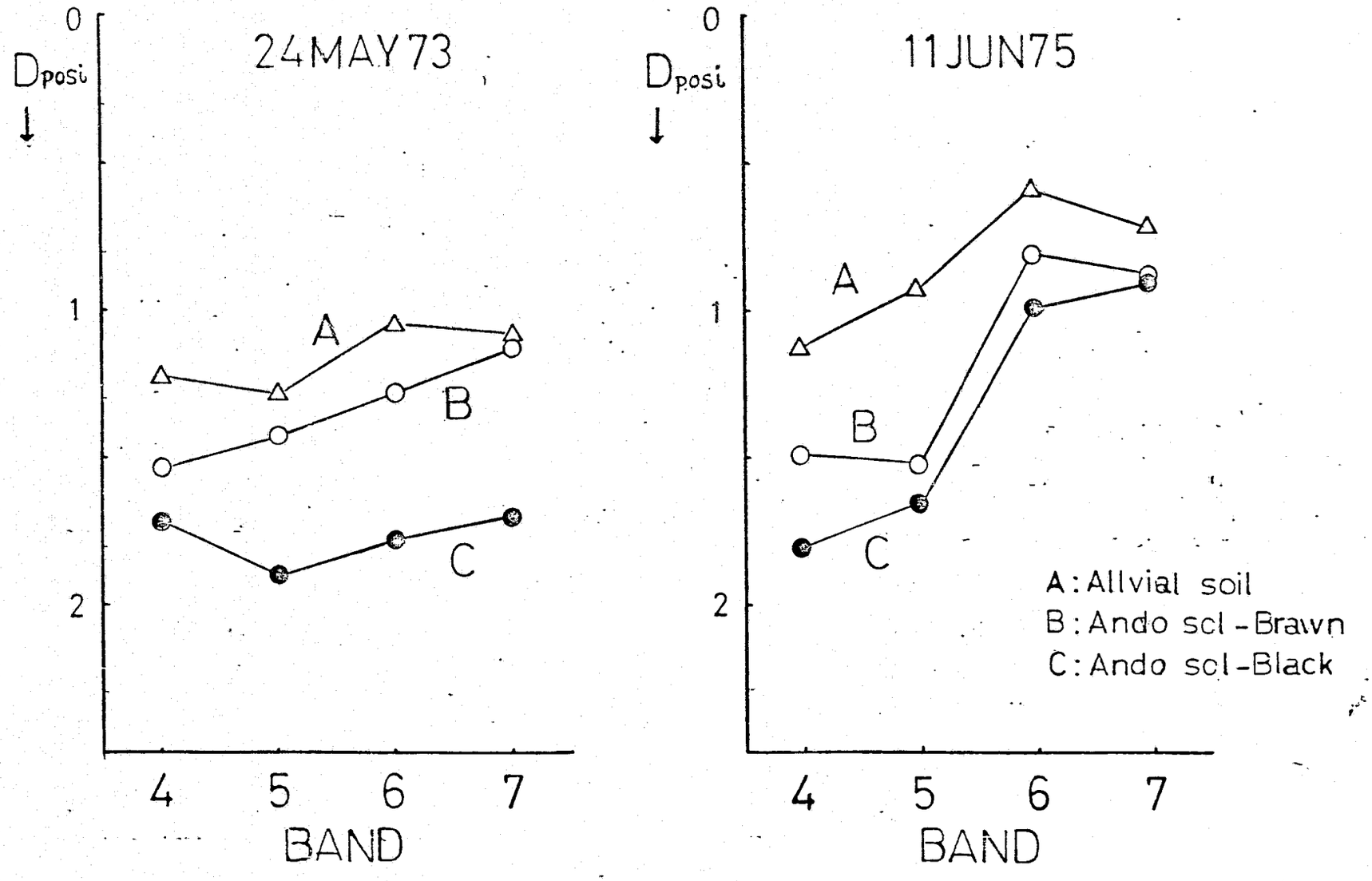


Fig.2 Distribution of density response for three different soil type field within four bands of B & W bulk positives. (24 May 1973, 11 June 1975)