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### A simple method for the evaluation of the translocation behaviour of agrochemicals in soil

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A detailed knowledge of the translocation behaviour of agrochemicals in soil, especially herbicides and fertilizers, is important for their successful use in agriculture. Suitable analytical methods are column chromatography, with analytical examination of the effluent, and thin-layer chromatography (TLC) using radioactively labelled compounds, or biological methods, *e.g.*, germination of seeds for herbicide examination. In this paper, a simple method is described, based on the translocation in a soil TLC layer followed by simple transfer to a silica gel plate and spraying with an appropriate colour reagent.

#### EXPERIMENTAL AND RESULTS

Normal plates (20 × 20 cm) were layered with soil of different types, using 100 g of soil and 50 ml of water for three plates and distribution by hand with a glass rod. The plates were air dried at room temperature and the compounds applied. After development with water, the plates were removed from the chamber and immediately covered with a normal silica gel plate (0.25 or 0.50 mm) for 30 min and compressed. The plates were air dried, sprayed with an appropriate reagent and the results interpreted by the usual methods. If the solubility in water of the compound to be transferred is very low, the plate carrying the soil should first be dried and the silica gel plate be impregnated with a solvent in which the compound has a good solubility.

When 25 µg of a compound were applied to the plate carrying the soil, about 30% was transferred to the silica gel plate, as found by using radioactively labelled compounds in our laboratory.

The method was tested with different organophosphorus insecticides, *e.g.*, trichlorphone and dimethoate, which were detected with the common P-reagent<sup>1</sup>. Compounds that are difficult to label with radioisotopes can be studied by this method with advantage, and also mixtures of labelled and unlabelled compounds.

#### REFERENCE

- 1 I. M. Hais and K. Macek, *Handbuch der Papierchromatographie*, Band I, Fischer, Jena, 1958.