

soils, should include for testing predominantly monionic Na and Mg samples.

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\* G. R. Clarke, *The Study of Soil in the Field*, 1938, p. 93, Clarendon Press.

† Massive columnar structure of approximately hexagonal figures, about 4' in diameter, is formed in dry weather but strictly speaking there is no obvious macro-structure.

#### VELOCITY OF LONGITUDINAL TRANSPORT AND TRANSEVERSE TRANSLOCATION OF ROOT-FORMING HORMONE IN IMPATIENS

IN continuation of our work<sup>1</sup> on induced root formation in *Impatiens*, we have found the rate of translocation of the internal hormone to be 1.8 mm./hr. at the apical region, 2.4 mm./hr. at the basal region and 2 mm./hr. throughout the stem. The above rates were calculated as follows:—

Lanolin paste of 1 per cent.  $\beta$  indol acetic acid was applied to similar plants at the apical, central and basal regions of the stem and the time of root formation and the distance from the leafy top to the region of application of the paste gave the required results.

Fig. 1a shows the root induction by 1 per cent.  $\beta$ -indol acetic acid lanolin paste on the defoliated half of the split stem, thereby demonstrating that the internal hormone has been transversely transported across the stem below the split from the non-defoliated half of the split stem. Fig. 1b shows a split plant which has been treated simultaneously on both halves with root formation on the foliated half of the stem only, thereby indicating that the internal hormone has been arrested on the foliated half and consequently inhibiting root formation on the defoliated half. Application of the paste to a completely defoliated stem but supplied with solutions of sugars and vitamin B<sub>1</sub>, does not induce root formation which again indicates that the defoliation has render-

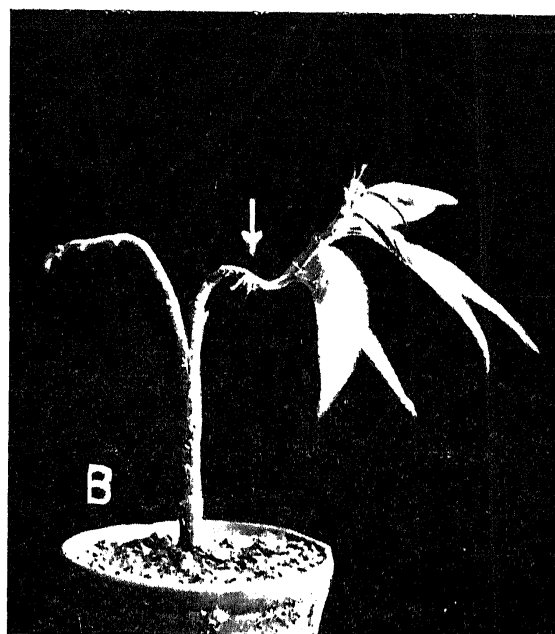
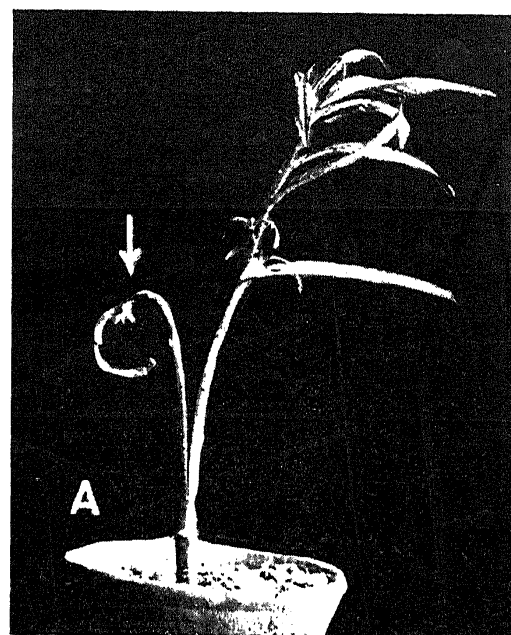


FIG. 1

Rooting responses in split stems of *Impatiens*

*A*, defoliated side treated with 1% indole acetic acid (note root formation on the defoliated side indicated by arrow). *B*, defoliated and leafy sides both treated with 1% indole acetic acid (note root formation only on the leafy side indicated by arrow).

ed the stem devoid of the natural internal hormone.

The detailed paper will be published in the *Transactions of the Bose Research Institute*.

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<sup>1</sup> Dutt, B. K., and Guha Thakurta, A, *Trans. Bose Res. Inst.*, 1939-41, 14, 73-89.