

PLANT GROWTH DUE TO HORMONES OR HORMONE-LIKE SUBSTANCES

Hormones or similar substances are known to influence growth, either causing it or inhibiting it. A knowledge of these aids to growth is of practical value to the plant grower as well as the botanist.

In my work with Dr. C. D. LaRue at the University of Michigan Biological Station at Douglas Lake, Cheboygan, Michigan, I used several methods to promote growth. Most of this work was on root or rhizoid growth although local applications caused curvature of stem or petiole as the side having the application grew more rapidly than the opposite side.

Briefly the methods are:

1. Application of 1% to 3% indole 3 acetic acid in lanolin or 1% to 3% indole butyric acid in lanolin to:
 - a. Stems and petioles of tomato plants.
Result: curvature.
 - b. Stems and cotyledons of castor bean, Kentucky Wonder bean, sunflower, tomato and balsam.
Result: adventitious roots.
 - c. Mosses.
Result: rhizoid growth.
2. Wounding of herbaceous plants causing wound hormones which produced roots. Wounding was produced by slicing lengthwise with a razor blade.
 - a. Leaves of *Coleus blumei* sliced at petiole. Wounded part removed after two days. Part removed from controls also.
Result: root growth.
 - b. Stems of *Mentha arvensis americana*, *Lysimachia nummularis* and *Sedum purpureum*.
Result: root growth.
 - c. Mosses.
Result: rhizoid growth.
3. Application, on woody cuttings, of plant extracts from plants possessing considerable regenerative powers.
 - a. Cuttings of willow and poplar in extract of *Radicula aquatica* for two days and then in water.
Result: more rapid rate of root growth.

Commercial products are now sold which stimulate root formation giving a higher percentage of success in plant propagation.

This experimental field of plant growth is well worth the attention of the botanists. In actual work or for a fuller knowledge of what leading botanists have done, the following references will be helpful.

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THE COMMITTEE on local and state organizations is anxious to hear from each and every listed affiliate. The work of this committee will be constructive in proportion to the information they receive from the local organizations. The chairman is PREVO L. WHITAKER, *University High School, Bloomington, Indiana*. He writes that the committee is working on a data sheet, to be sent to each local, on which reports may be sent in with a minimum of time and labor.

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