

Subsidiary
Part - II
Lecture No - 11

Plant physiology 17th August
Group - C
Growth Hormones - Theory Paper
2020

Auxine: Growth is an essential characteristic of life. The permanent and irreversible change in any dimension of an organism accompanying an increase in the dry weight. Growth hormones are now well known as the internal factors contributing largely to the growth of the plants.

The physiological activities of plants to a greater extent are regulated by a variety of internally synthesized chemical substances called hormones. These hormones provide regulatory effect to the growth of the plants.

Auxins have been the most comprehensively studied groups of plant hormones.

The physiological action of auxins was first clearly demonstrated in the leaf sheath or coleoptile of the oat-plant (*Avena sativa*). The coleoptile is actually a tubular leaf-like structure

closed at the top, which is the first part of the plant to emerge from the soil. The hormones studied from the coleoptile have been given the term auxine. A very classical and interesting experiment on oat coleoptile was performed by Söding (1925). He took three coleoptiles, A, B and C of the same size. "A" was allowed to elongate while "B" and "C" were detipped. He observed that A grew to its maximum length while B and C did not grow further.

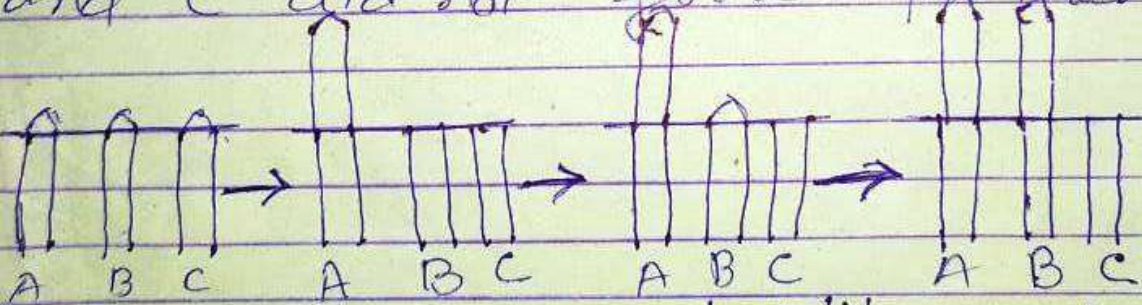


Fig - Went's Avena coleoptile experiment
 In the next stage he took the cut-off tips of the coleoptile or a similar tip from another coleoptile and fixed it on the cut stump of B, whose elongation was resumed, resumed and nearly regained the original length.