(9)

increased length of hypocotyl and low concentration and shortening at higher concentration. Bhardwaja and Rao recorded 33% increased yield and 10 ppm (part per million) treatment. Similar are reported by Sirohiwal (1960), Sircar (1963) on seed of wheat and Crotolaria.

(4) Root formation ⇒ Auxin is used by plant groups to produced root formation in cutting as it stimulates the formation of adventitious and lateral roots.

(5) Apical dominance ⇒ The phenomenon in which the apical bonds dominates over the axillary buds has been named as apical dominance Workers have addressed the idea that apical dominance is under direct controll of auxins. The removal of apical bud causes fast growth of lateral buds.

(6) Parthenocarpy ⇒ It is the process of formation fruit without fertilization. The application of auxins on ovaries cause development of seedless fruit in Tomato, Apples, and Cucumber etc.

(7) Prevention of abscission layer ⇒ The shedding of the layers from the stem is frequently initiated by the formation of separation zone at the base of the stalk called abscission layer. The contribution of the auxins in the cells prevent the formation of abscission layer inhibiting the fall of premature leaves, flowers and fruits from the stem.

(8) Flowering ⇒ Several workers have reported that auxin treatment in an increase no. of flowers

(10)

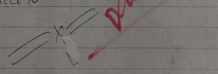
Many and Prakash (1955) treated wheat plants with auxin. It increase spikelet numbers, leaf numbers, weight and number of grains. Mathur (1959) reported and increased the number of fertile branches in NAA treatment. Cosyppium Das (1962) studied the effects of auxin on flowering and fruiting of pine apple and observed that 2-NA proved beneficial.

(9) Shortening of internodes ⇒ Some plants are dimorphic. They bear two type of branches namely the long sterile and short fertile. Auxins are capable of converting long sterile branches into short fertile branches. this has been done in apples and in pears etc.

(10) Weed Control ⇒ Auxins are used in eradication of weeds. The spraying of auxins causing over stimulate root growth in these plants. The lumen of the vascular elements becomes block and the plants are ultimately destroyed.

(11) Respiration - Auxins stimulate the activity of respiration in many plant. [illegible]

(12) Enzymatic activity ⇒ It can stimulate the activity of enzyme and lowers its activity peroxidase isoenzyme in Tobacco.



Stafford (1967-73) has ventilated the idea that auxins has manifold effects on the physiology of cells his effects can be illustrated as:-

1. It increases amylase activity
2. Increases permeability
3. Lowers viscosity
4. Increases cell wall plasticity
5. Increases energy rich phosphate in endergonic growth reaction.

Sircar (1971) has presented monograph on plant hormones. He has proposed that the auxins are the 'key substance' in the plant life.

Practical use of Auxin ⇒ This phytohormone has got a wide range of practical applications. Some common uses include –

1. Cell elongation ⇒ Auxins promote cell elongation in stem and coleoptile. Higher auxins concentration promotes stem elongation, but the same concentration inhibits root growth.
2. Cell division ⇒ It is responsible for initiation and promotion of mitotic cell division in plants. This property is very useful in tissue culture experiment and formation of callus.
3. Seed germination ⇒ Auxin at a very low concentration promotes germination. In India auxins are used to break the dormancy of seeds. Chakravarty (1958) studied the pretreating treatment of Dead jute-bug with IAA, IBA, NAA, 2-4 D etc. He noted the