AUXIN TYPE GROWTH REGULATORS

Role of Auxin:

- Induces cell division and cell growth
- Improves synthesis and translocation of photosynthates
- Induces root initiation
- Breaks dormancy of seeds and buds
- Induces flowering and fruit growth

COTTON:

- Foliar spray of 40 ppm NAA (20g / 500 lit. of water / ha) at 90, 105 and 120 DAS reduces flowers, buds and squares dropping and increases yield.

PULSES:

- Foliar spraying 40 ppm NAA increases flower production, reduce flower drop and increases seed yield.

CHILLIES:

- Foliar spray of 100 ppm NAA at 25 DAT - to reduce the flower drop and increases fruit set and yield.

POTATO:

- Foliar spray of NAA 100 ppm at 25 DAT - to increase tuber yield.

HORTICULTURAL CROPS:

- For induction of rooting in cuttings. Dip cuttings in 1000 ppm IBA and then plant.
GIBBERELLIC ACID
Plant Growth Regulator

Roles of Gibberellic acid

- Prevents genetic and physiological dwarfism
- Breaks seed and bud dormancy
- Induces flowering
- Induces Parthenocarpic fruits and vegetables
- Induces seed germination.

USES

Rice:

- Foliar spray of GA, at 100 ppm during panicle initiation stage enhances the panicle exertion and increases seed weight and yield in hybrid rice.

Sunflower:

- Foliar spray of GA, at 200 ppm at 45 DAS increases the seed number, seed weight and yield.

Grapes:

- Foliar spray 25 - 50 ppm of GA, in grapes just before flowering and during fruiting enhances the fruit size, sugar content and yield.

Chrysanthemum:

- Spraying GA, at 50 - 150 ppm increases the number of flowers, yield and enhances the shelf life.
**ETHREL - PLANT GROWTH REGULATOR**

*Physiological roles:*
- Induces auxin production
- Induces flowering
- Activates enzymes in respiration
- Induces resistance to frost and diseases
- Accelerates seed germination and latex flow
- Induces branching

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Crop</th>
<th>Dose</th>
<th>Time of Application</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Grapes</td>
<td>80 ppm</td>
<td>Tenth day after flowering</td>
<td>Seedless fruits</td>
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<td></td>
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<td></td>
<td></td>
<td>Increases fruit weight, size and colour</td>
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<tr>
<td>2.</td>
<td>Cucumber</td>
<td>300 ppm</td>
<td>At peak vegetative stage</td>
<td>Increases male and female flowers</td>
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<td></td>
<td>Snake gourd</td>
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<td></td>
<td>Bitter gourd</td>
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<td></td>
<td>Ribbed gourd</td>
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<td></td>
<td>Pumpkin</td>
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<tr>
<td>3.</td>
<td>Pineapple</td>
<td>40 ppm</td>
<td>At peak vegetative stage</td>
<td>Induces flowering</td>
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<tr>
<td>4.</td>
<td>Banana</td>
<td>1000 ppm</td>
<td>At the time of fruit maturity</td>
<td>Induces ripening</td>
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<tr>
<td>5.</td>
<td>Mango</td>
<td>1000 ppm</td>
<td>At the time of fruit maturity</td>
<td>Induces ripening</td>
</tr>
<tr>
<td>6.</td>
<td>Jatropha</td>
<td>100 ppm (2 times)</td>
<td>At flower initiation stage &amp; pod filling stage</td>
<td>Induces flowering, pod setting and seed yield</td>
</tr>
</tbody>
</table>
BRASSINOLIDES (BR)
PLANT GROWTH REGULATORS

Roles of BR

- Increases growth and uptake of nutrients.
- Imparts resistance to drought, salinity and heat.
- Increases flowering, fruit set and yield.

USES

Rice
- Foliar spray of 0.3 ppm BR at panicle initiation and flowering stages increase grain yield.

Groundnut
- Foliar spray of 0.5 ppm BR on 40 DAS increases pod yield.

Cotton
- Foliar spray of 0.5 ppm BR at flowering stage increases kapas yield.
SALICYLIC ACID
FOR INCREASING YIELD IN PULSES
AND OILSEEDS

Physiological Role of Salicylic Acid:
♦ Acts as a growth hormone
♦ Maintains water balance
♦ Acts as a chelate for Phosphorus uptake
♦ Improves flowering and pod yield
♦ Induces resistance to pest and disease

Technology:
Foliar spray of 100 ppm salicylic acid (50g/500 lit water/ha) for Greengram, Blackgram, Sesamum, Castor and Groundnut.

Method:
Foliar spray of salicylic acid 100 ppm (100mg / lit)

Time of spray:
1. At flowering stage
2. At 15 days after first spray