

**Achieving Plant Growth Management II - Non-Chemical Growth Control**  
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**Introduction:** Where to start? A calendar. Where to end? The cart. Just the opposite.

**Ways to control height:**

- Environment
- Nutrition
- Mechanical
- Plant Selection
- Scheduling

**Environment:**

- Temperature - DIF
  - Day °F – Night °F = DIF
  - Can be expensive: High night temperatures
  - Can be hard to accomplish: Cool day temperatures
  - Temperature – DROP
  
- Light
  - Photoperiod
  - Minimum photoperiod requirement
  - Light - Intensity
  - Light - Quality
  - Environmental QC: Temperatures, Light, Photoperiod
  - High-Low thermometers, Data loggers
  
- Moisture

## Moisture Level

MOISTURE LEVEL	DESCRIPTION
1 – DRY	Soil is tan to gray in color, trays are extremely light, and soil pulls away from sides of container.
2 – MEDIUM	Soil is light brown in color, no water can be extracted from soil, and soil will crumble apart.
3 – MOIST	Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.
4 – WET	Soil is dark brown but not shiny, no free water is seen at the surface of the soil, when pressed or squeezed water drips easily, and trays are heavy with a visible bend in the middle.
5 – SATURATED	Soil is dark brown and shiny, free water is present at the surface of the soil, water drips freely from the bottom of the tray, and trays are heavy with a visible bend in the middle.

## Nutrition:

- Nitrogen rate
  - Increased N rate will promote growth
- Nutrition - Monitoring
  - Recommendations: Look at breeder tech. info, PourThru – NCSU
  - Be mindful of ranges
  - 2:1
  - SME
  - PourThru
- Nutrition – Nitrogen source
  - Pay attention to nitrogen sources: Nitrate nitrogen vs ammoniacal
  - Fertilizers high in AMMONIACAL nitrogen will promote fast, soft growth
  - Fertilizers high in NITRATE nitrogen will help keep plants toned

## Mechanical:

- Pinching
- Spacing
- Thigmomorphogenesis: the response by plants to mechanical sensation (touch) by altering their growth patterns

## Plant Selection:

- G × E – Genetics × Environment
- Right plant, right place
- Know your genetics!

## Scheduling:

- Be accurate
- Don't second guess the weather
- Don't "hedge your bet"
- Write it down
- Stick to the schedule!
- Pot size
  - Use a larger liner if you are going to take longer to transplant
  - Use a larger pot if you are going to want big flower power/chassis
  - Plants per pot

**Digital Tools Available Online:** Gain instant access to relevant product information on all of our Syngenta Flowers at the office or on the go.

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