

Managing the Greenhouse Environment: Temperature, Humidity and Water

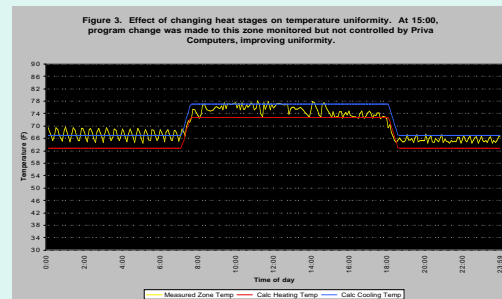
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Take Home

- Test water
- Consider computer environment control
- Test water
- Consider automating irrigation
- Test Water

Temperature

- Regulates germination, growth, flowering, fruiting, longevity
- Optimum temp is species dependent
- 75/65 F generally
- Night drop is important



Multiple stages of heating and cooling improves control



A weather station greatly improves environment control and saves programming time.



Alarming with an autodialer. Requires a phone line.

Humidity Control

•50-90% RH generally



•Plants, wet soils and floors provide humidity.

•Mostly worry about disease promotion.

•Vent or heat or both if condensation lingers on glass past mid-morning.

•Pre-dawn venting



Keep the air moving

Watering

- Quality--test clear water before growing your first plant. Direct yourself to do it regularly for clear water and fertilizer.
- Quantity--can't overwater plants by putting on too much water at one time
- Frequency--depends on weather, pot, soil, species, age
- Application method--should be automated whenever possible



Application Method

- Spot watering vs. crop watering
- Hand watering vs. automation
- Clock automation vs. computer automation



Solenoids
and
timers



Drippers and
sprinkler heads



Resources

- Text: Greenhouse Operation and Management by Paul V. Nelson
- Trade pubs: *GrowerTalks*, *Greenhouse Grower*
- Free greenhouse bulletins available at www.flowers.hort.purdue.edu
- Rob at 765-496-3710 or eddy@hort.purdue.edu

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Have a nice crop!