

# 2006 Concise™ Efficacy Trial on Petunia and Marigold



Dr. James Gibson  
University of Florida – WFREC  
Milton , Florida

# Methods & Materials

- **Objective:** Compare efficacy of Concise™ to Sumagic®
- **Species/Cultivar:**
  - Petunia/ *Frost Fire*
  - Marigold/ *Yellow Fire*
- **Pot Size:** 3.5-inch (1801 tray)
- **Substrate:** Fafard 4-P
- **Schedule:** Plugs planted 1 March, 2006
- PGRS applied on 15 March, 2006
- Efficacy measured at marketing phase (60% flowering in plot)
- Irrigation method: Overhead irrigation
- **Fertilization:** Fertilization program initiated after root establishment
  - 14-4-14 at 200 ppm N

# Petunia



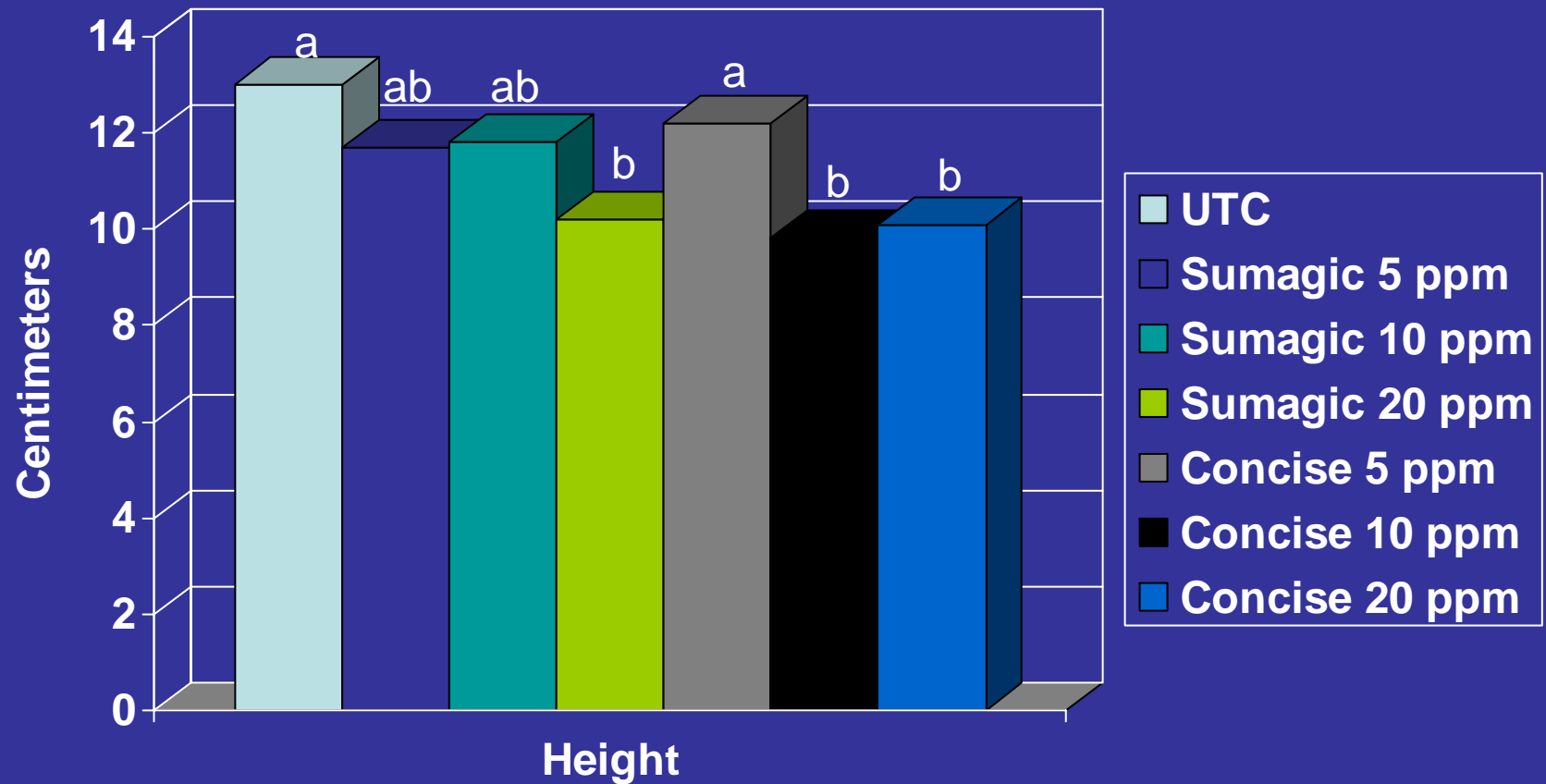
Cultivar: *Frost Fire*

# Petunia

	Rate (ppm)	Total Height	% of Control	% Control
<b>UTC</b>	0	13.0a	100	0
<b>Sumagic</b>	5	11.7ab	90	10
<b>Sumagic</b>	10	11.8ab	91	9
<b>Sumagic</b>	20	10.2b	78	12
<b>Concise</b>	5	12.2a	94	6
<b>Concise</b>	10	9.8b	75	25
<b>Concise</b>	20	10.1b	78	22

Mean height and diameter separated by least significant differences (LSD) at  $P > 0.05$ .  
Treatments with similar letters were equal in size.

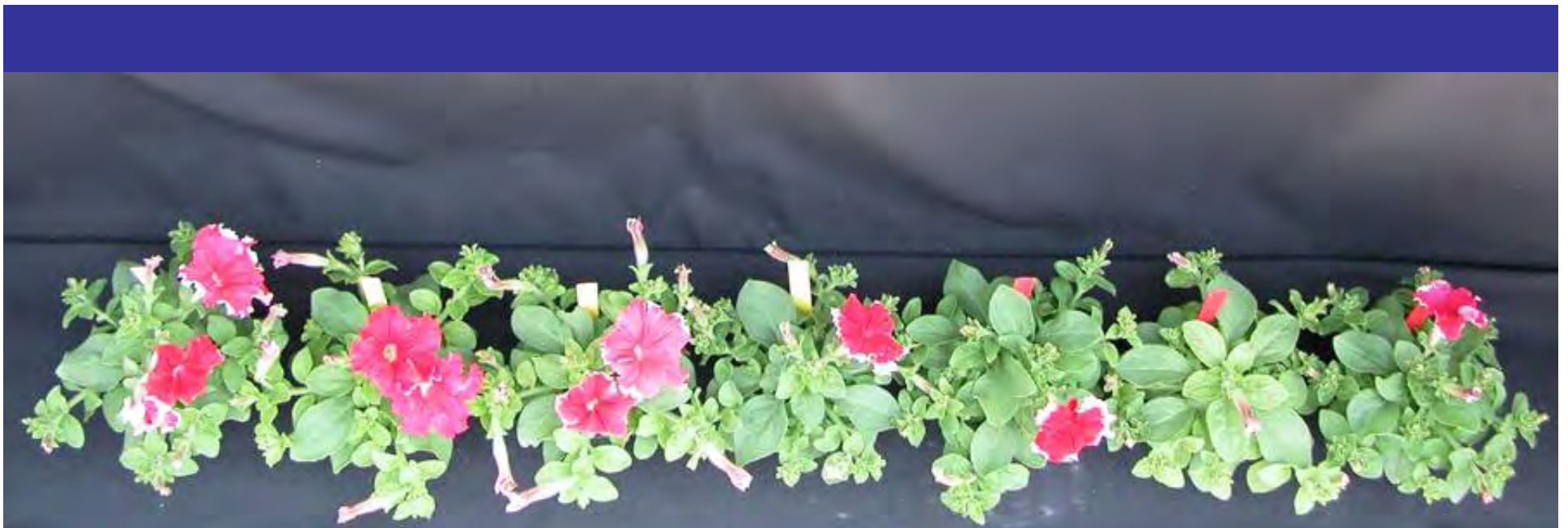
# Petunia



Mean height and diameter separated by least significant differences (LSD) at  $P > 0.05$ .  
Treatments with similar letters were equal in size.



Petunia Efficacy – Untreated, Sumagic 5, 10, 20 ppm; Concise - 5, 10, 20 ppm



Petunia Efficacy – Untreated, Sumagic 5, 10, 20 ppm; Concise - 5, 10, 20 ppm



Petunia Efficacy – Untreated, Sumagic 5 ppm, Concise 5 ppm



Petunia Efficacy – Untreated, Sumagic 5 ppm, Concise 5 ppm



Petunia Efficacy – Untreated, Sumagic 10 ppm, Concise 10 ppm



Petunia Efficacy – Untreated, Sumagic 10 ppm, Concise - 10 ppm





Petunia Efficacy – Untreated, Sumagic 20 ppm, Concise 20 ppm



Petunia Efficacy – Untreated, Sumagic 20 ppm, Concise - 20 ppm

# Observations - Petunia

## Total Height:

- Plants treated with Sumagic at 5 to 10 ppm or Concise at 5 ppm were similar in size to the control.
- Sumagic at 5 to 20 ppm produced similar sized plants to Concise treated plants at 10 to 20 ppm.
- Concise at 10 to 20 ppm produced plants within wholesale growth control standards for height, therefore wholesale growers may wish to apply Concise at 10 ppm.

## Diameter:

- All treatments produced similar-sized plants.

# Marigold



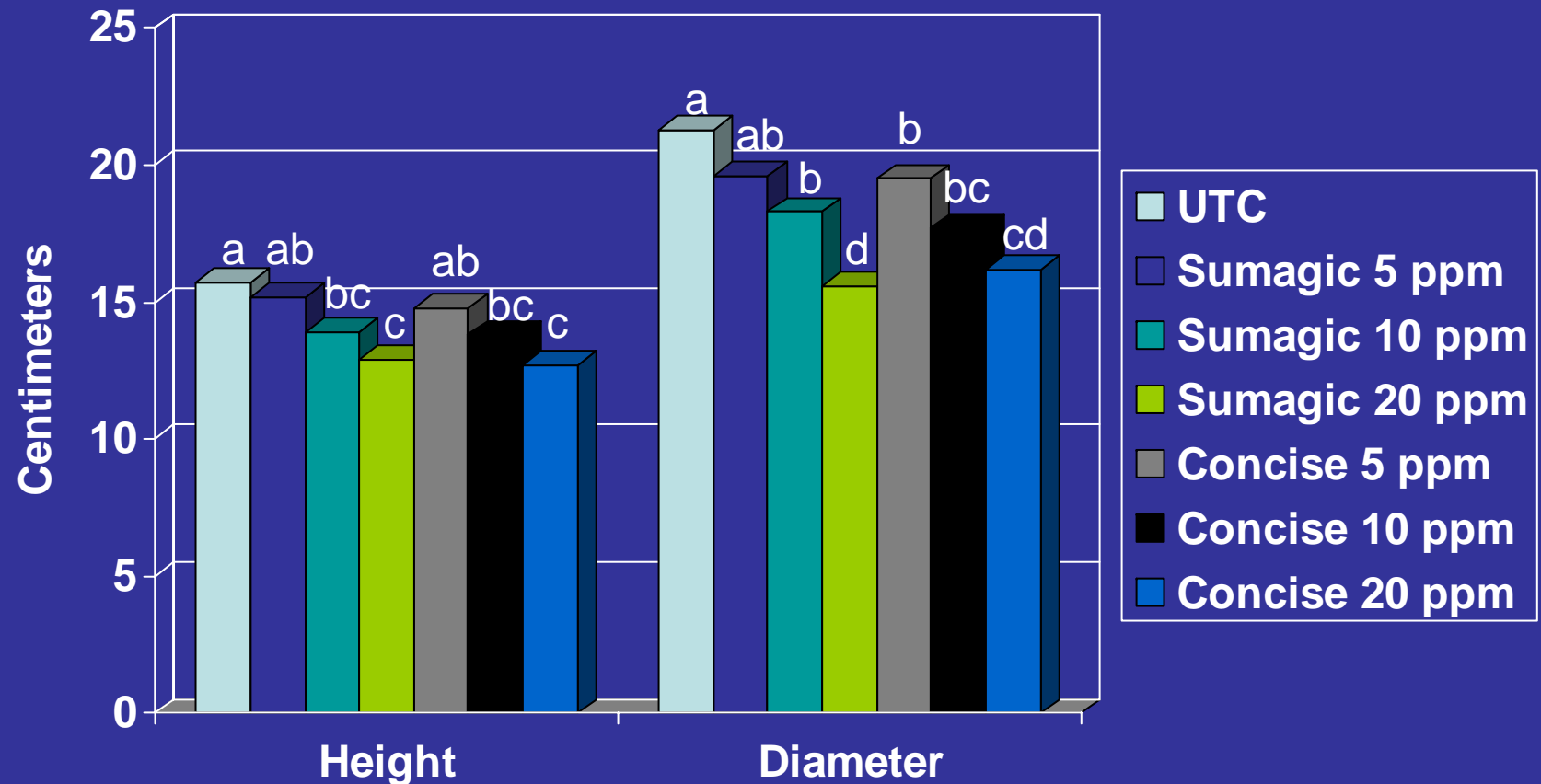
Cultivar: *Yellow Fire*

# Marigold

	Rate (ppm)	Tot Ht	% of Control	% Control	Diameter	% of Control	% Control
<b>UTC</b>	0	15.7a	100	0	21.3a	100	0
<b>Sumagic</b>	5	15.2ab	97	3	19.6ab	92	8
<b>Sumagic</b>	10	13.9bc	88	12	18.3b	86	14
<b>Sumagic</b>	20	12.9c	82	18	15.6d	73	17
<b>Concise</b>	5	14.8ab	94	6	19.5b	92	8
<b>Concise</b>	10	13.8bc	88	12	17.7bc	83	17
<b>Concise</b>	20	12.7c	81	19	16.2cd	76	24

Mean height and diameter separated by least significant differences (LSD) at  $P > 0.05$ .  
Treatments with similar letters were equal in size.

# Marigold



Mean height and diameter separated by least significant differences (LSD) at  $P > 0.05$ .  
Treatments with similar letters were equal in size.



Marigold Efficacy – Untreated, Sumagic 5,10,20 ppm, Concise – 5,10,20 ppm



Marigold Efficacy – Untreated, Sumagic 5,10, 20 ppm, Concise – 5,10,20 ppm



Marigold Efficacy – Untreated, Sumagic 5 ppm, Concise 5 ppm



Marigold Efficacy – Untreated, Sumagic 5 ppm, Concise 5 ppm



Petunia Efficacy – Untreated, Sumagic 10 ppm, Concise 10 ppm



Petunia Efficacy – Untreated, Sumagic 10 ppm, Concise 10 ppm





Marigold Efficacy – Untreated, Sumagic 20 ppm, Concise 20 ppm



Marigold Efficacy – Untreated, Sumagic 20 ppm, Concise 20 ppm

# Observations - Marigold

## *Total Height:*

- Sumagic and Concise at 5 ppm was similar to the control.
- Sumagic at 5 to 10 and Concise at 5 to 10 ppm produced similar-sized plants.
- Sumagic at 10 to 20 and Concise at 10 to 20 ppm produced similar-sized plants.
- Sumagic and Concise at 20 ppm were shorter than Sumagic and Concise at 5 ppm.
- Sumagic and Concise at the concentrations applied did not produce plants within wholesale growth control standards, however concentration at 10 to 20 ppm for both chemicals may be acceptable to retailers.

# Observations - Marigold

## Diameter:

- Sumagic at 5 ppm was similar to the control.
- Sumagic at 5 to 10 and Concise at 5 to 10 ppm produced similar-sized plants.
- Concise at 10 and 20 ppm were similar.
- Sumagic and Concise at 20 ppm were similar.
- Sumagic at 20 ppm and Concise at 10 to 20 ppm applied produced plants within wholesale growth control standards for diameter, therefore wholesale growers may wish to apply Sumagic at 20 and Concise at 10 ppm.
- Retailers may opt for plants treated with Sumagic at 5 to 10 or Concise at 5 ppm.

# Recommendations:

- Concentrations were based under Florida conditions and should be adjusted for other areas.
- No phytotoxicity (chlorosis or necrosis) for Concise, therefore Concise is safe to apply to marigolds and petunia in Florida.
- Petunias were lighter green with Sumagic when compared to the Concise treated plants in regards to foliar tone.
- Concise had a greater effect than Sumagic on petunias for height, while both chemicals did not affect diameter.
- Concise at 10 ppm and Sumagic at 20 ppm are effective concentrations for control of marigold diameter, while Sumagic and Concise were comparable at 10 to 20 ppm for height. Concentrations greater than 20 ppm of both chemicals may be effective for wholesale growers of marigold.
- Petunia growers may wish to apply Concise at 10 ppm for control of petunia height, and marigold producers may want to apply Concise at 10 ppm to control plant diameter.

<sup>TM</sup> Concise is a Trademark of Fine Agrochemicals Limited

<sup>®</sup> Sumagic is a Registered Trademark of Sumitomo Chemical Company, Ltd.