

A Report Submitted to Fine Americas, Inc.

Comparison of Uniconazole Products on Greenhouse Crops

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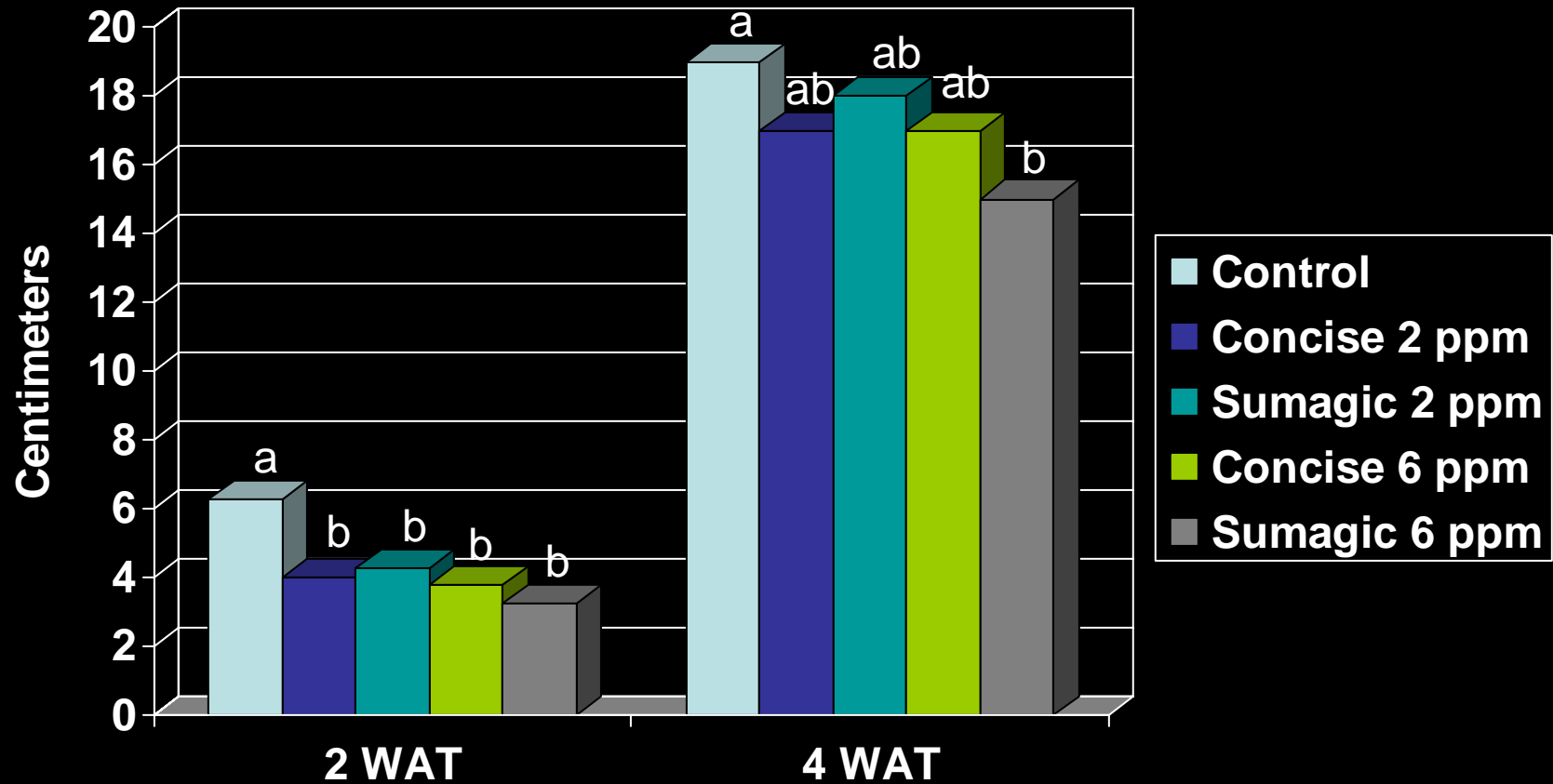
OBJECTIVE

The objective of this experiment was to compare the relative efficacy of the plant growth retardants Concise™ (uniconazole, Fine Americas, Inc.) and Sumagic® (uniconazole, Valent USA Corp.) on three species of bedding plants, one herbaceous perennial and one potted flowering crop.

METHODS

- The chemical applications were made 8 days and 12 days after planting of bedding plants and *Lilium*, respectively.
- For *Delphinium*, the chemical applications were made when plants began to bolt, 25 days after transplanting.
- A single foliar spray of Concise or Sumagic (2 qt./100 ft²) was made between 9:00 and 10:00 am on the day of application.
- The plants were grown in a glass greenhouse. The temperature setpoint was a constant 20 °C and the actual average air temperature was 22.3 ±2.5 °C. Plants were grown under natural daylengths (lat. 42 °N).
- Plant height was measured on the date of the chemical application and at 2 and 4 weeks after the application.
- Date of first flowering was recorded for each plant, and time to flower was calculated.

Calibrachoa x hybrida 'Callie Yellow'



Treatments with the same letter are not statistically different at $P \leq 0.05$.

Comparison of Uniconazole Products on Greenhouse Crops

Calibrachoa xhybrida 'Callie Yellow'

Control	2 ppm		6 ppm	
	Sumagic	Concise	Sumagic	Concise



Height inhibition at 4 weeks (%)

9.0

13.9

22.5

13.8

Photo: 4 weeks after application (5/31/06)

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Delphinium grandiflora 'Summer Blues'

Control	5 ppm		15 ppm	
	Sumagic	Concise	Sumagic	Concise



Height inhibition at flower (%)

50.9

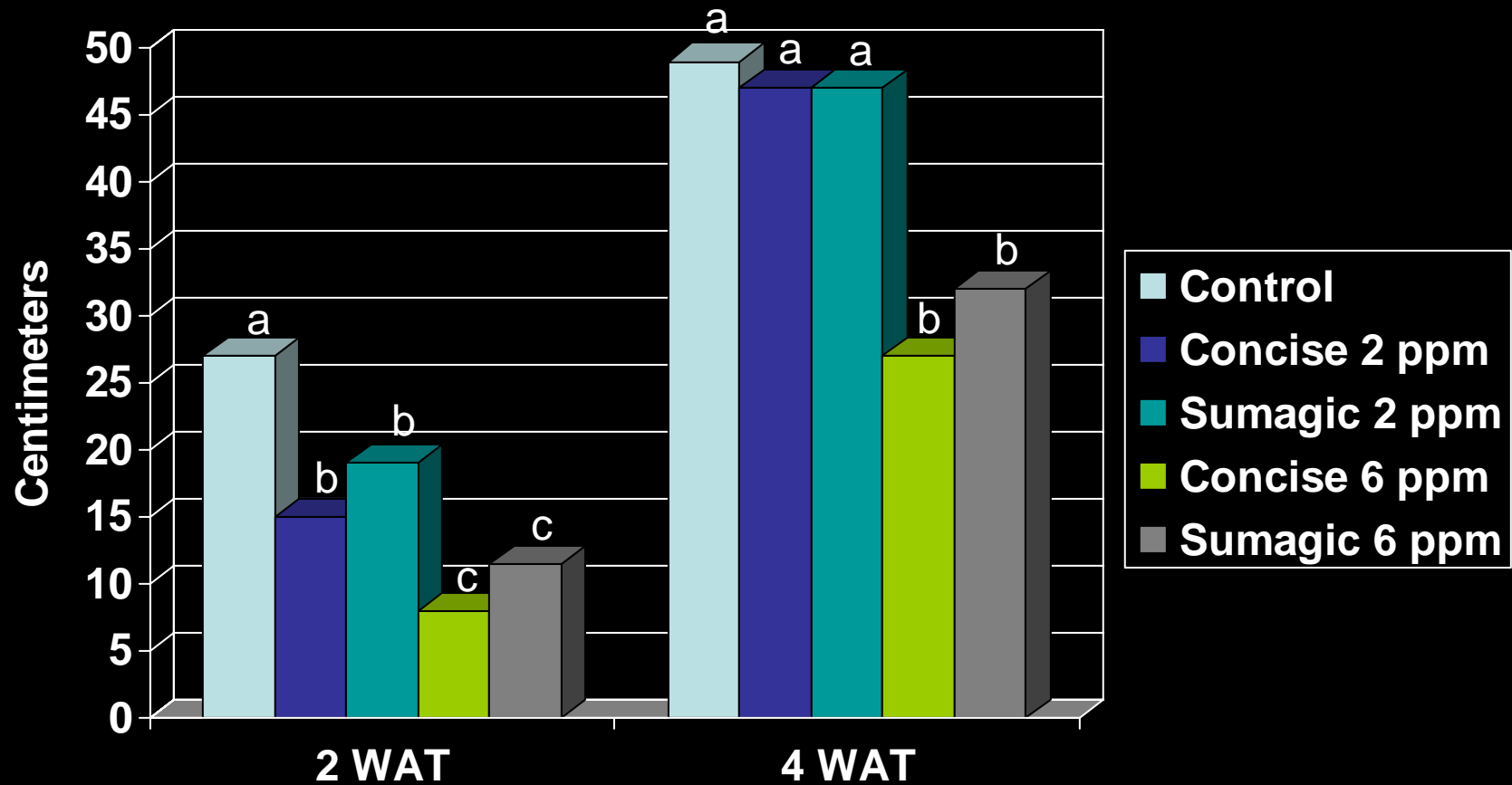
55.9

76.7

67.6

Photo: 4 weeks after application (6/20/06)

Lilium x hybrida 'America'



Treatments with the same letter are not statistically different at $P \leq 0.05$.

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Lilium xhybrida 'America'

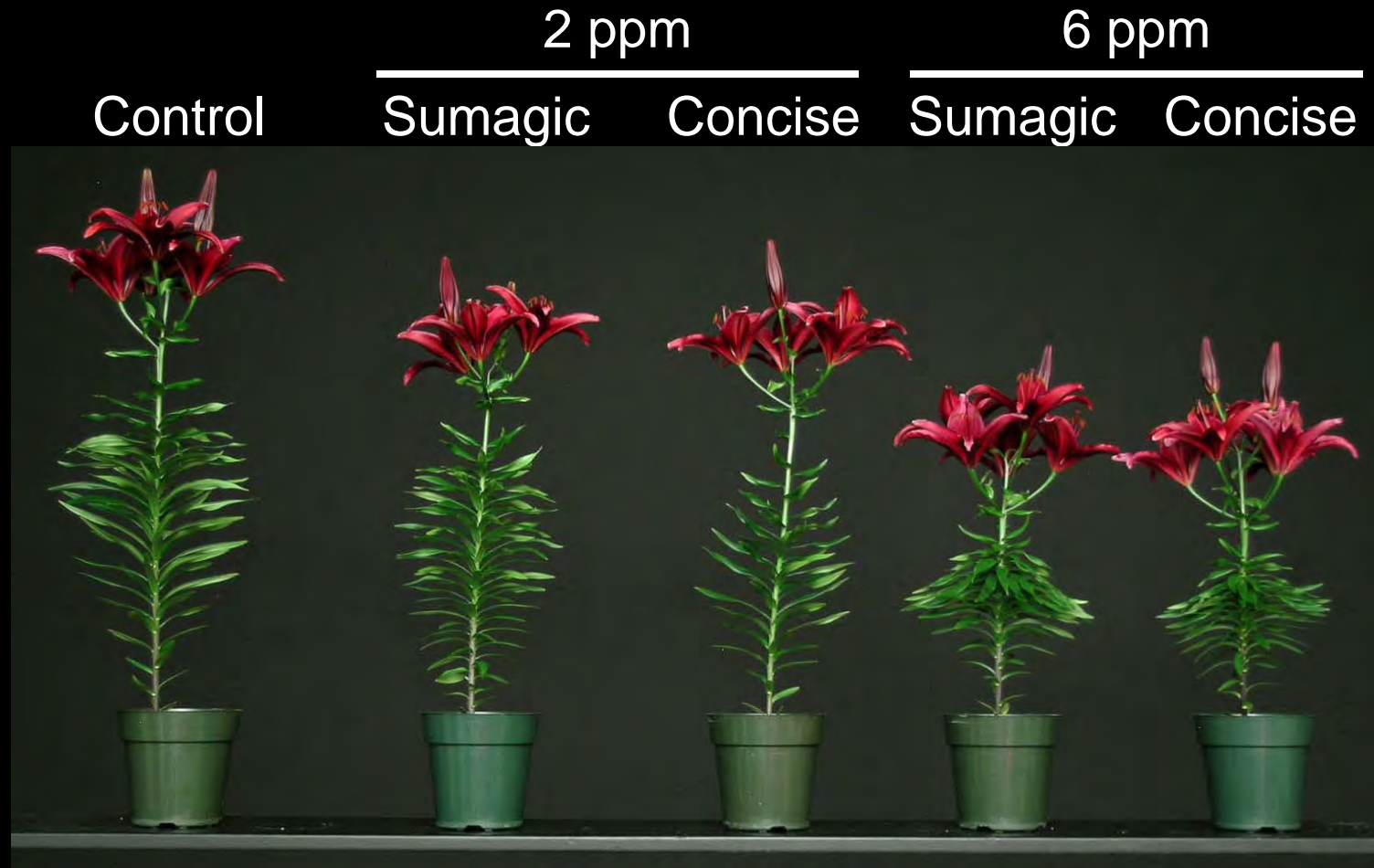
Control	2 ppm		6 ppm	
	Sumagic	Concise	Sumagic	Concise



Photos: 3 weeks after application (5/17/06)

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Lilium xhybrida 'America'



Height inhibition at flower (%)

4.9

4.8

29.2

45.1

Photo: 6 weeks after application (6/7/06)

Comparison of Uniconazole Products on Greenhouse Crops

Nepeta x fassenii 'Walkers Low'

15 ppm

45 ppm

Control

Sumagic

Concise

Sumagic

Concise



Height inhibition at 4 weeks (%)

0.8

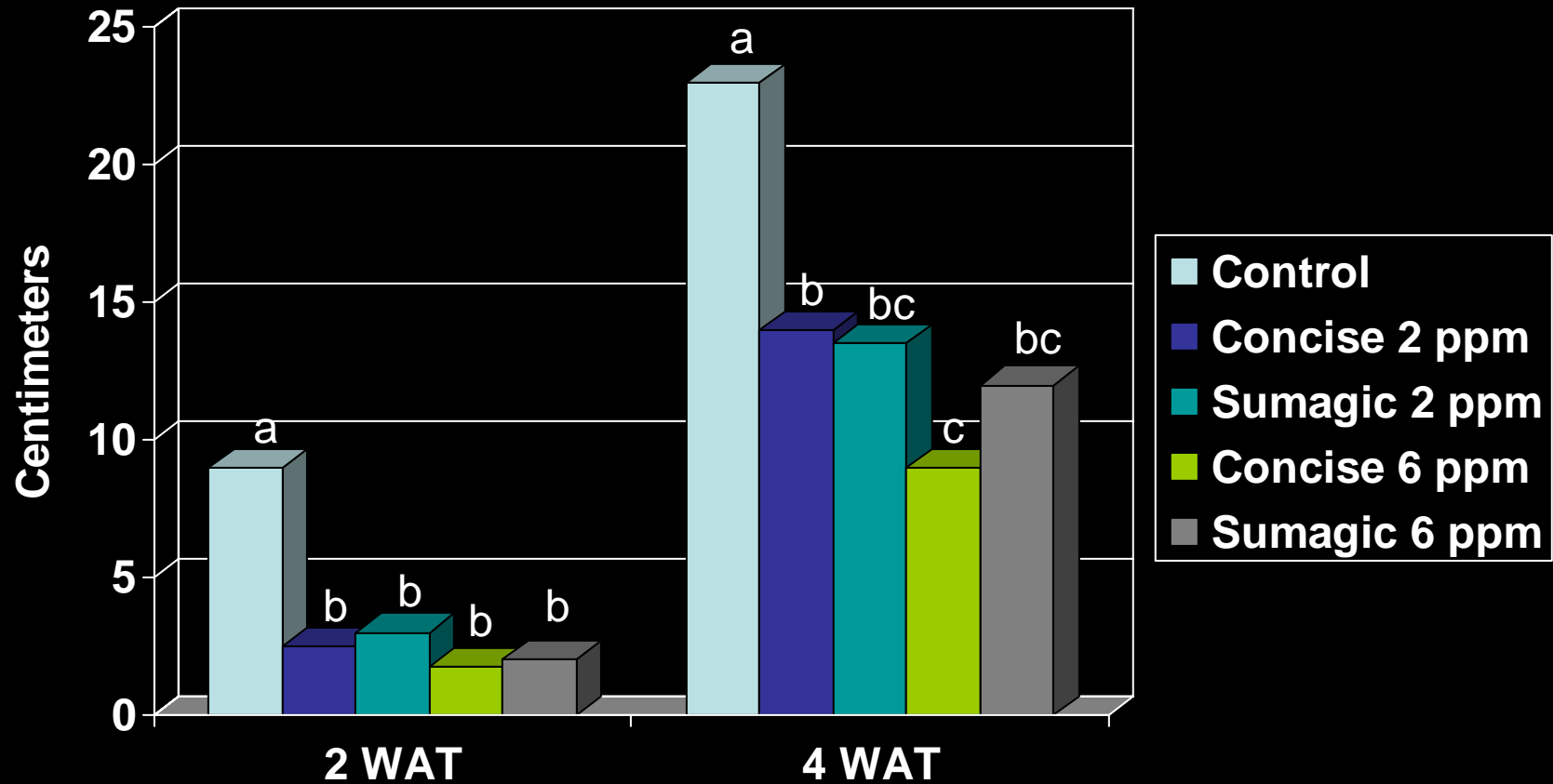
7.1

14.5

42.1

Photo: 4 weeks after application (5/31/06)

Sutera cordata 'Showers Bridal'



Treatments with the same letter are not statistically different at $P \leq 0.05$.

Comparison of Uniconazole Products on Greenhouse Crops

Sutera cordata 'Showers Bridal'

Control	2 ppm		6 ppm	
	Sumagic	Concise	Sumagic	Concise



Height inhibition at 4 weeks (%)

43.2

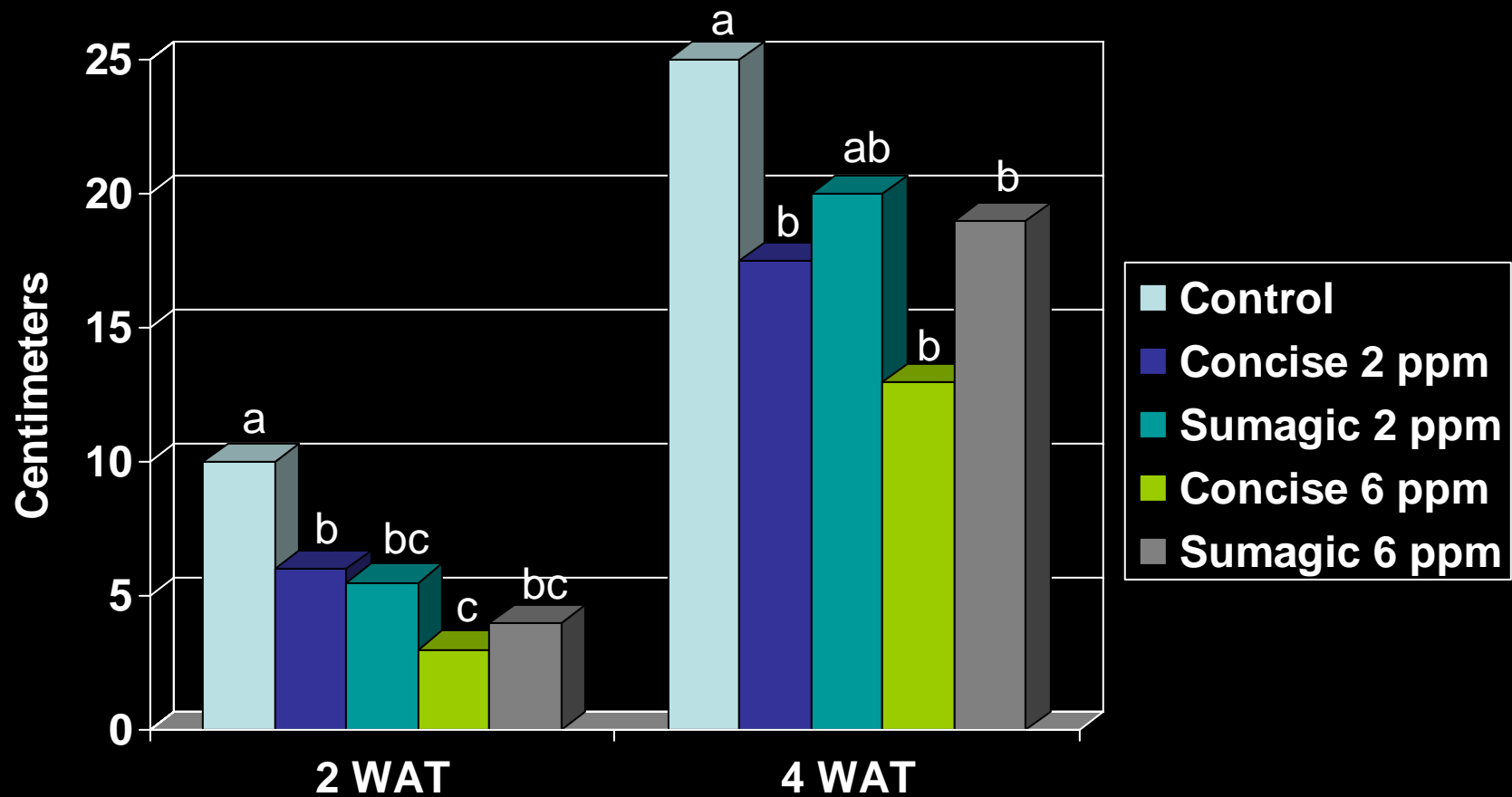
39.5

50.5

60.8

Photo: 4 weeks after application (5/31/06)

Verbena Semi Trailing 'Lanai Blue'



Treatments with the same letter are not statistically different at $P \leq 0.05$.

Comparison of Uniconazole Products on Greenhouse Crops

Verbena Semi Trailing 'Lania Blue'

Control	2 ppm		6 ppm	
	Sumagic	Concise	Sumagic	Concise



Height inhibition at 4 weeks (%)

	20.6	28.3	22.6	47.8
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Photo: 4 weeks after application (5/31/06)

CONCLUSIONS

- Concise and Sumagic are both effective at controlling stem elongation in *Calibrachoa* × *hybrida* 'Callie Yellow', *Delphinium grandiflorum* 'Summer Blues', *Lilium* 'America', *Nepeta* × *fassenii* 'Walkers Low', *Sutera cordata* 'Showers Bridal', and *Verbena* Semi Trailing 'Lanai Blue'.
- In all species except *Nepeta*, there were no differences in growth retardation between application rates of either chemical (e.g., Concise applied at 2 ppm produced a similar response as Sumagic applied at 2 ppm).
- For *Nepeta*, a single spray of Concise at 45 ppm continued to inhibit stem extension 4 weeks after application, while the effectiveness of Sumagic diminished.
- Concise and Sumagic had no effect on time to flower in all species except *Delphinium*. There were no differences in the number of flowers among any treatments for all species.

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