

# Citadel (FAL1101)

*(Seed Geranium Foliar Sprays )*

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# Foliar Sprays

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# Experiment Setup

- Seed Geranium 'Maverick Pink'
  - 5-inch pots
  - Transplanted on 15 February 2007
  - Sprayed 8 March 2007
  - Phytotoxicity inspection
  - Data recorded on 17 April 2007
    - Canopy Height
    - Diameter in 2 directions



***Spray Stage***



# Experiment Setup

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## Foliar Spray Treatments (ppm)

- *7 treatments with 6 replications*
- Applied at 151.4 ml solution per 8 square feet
  - Citadel (FAL1101) (@ 500, 1,000, and 1,500 mg/L)
  - Cycocel (@ 500, 1,000, and 1,500 mg/L)
  - Untreated Controls



# Results

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# Phytotoxicity

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- Concentrations  $\geq 1,000$  mg/L of both Citadel (FAL1101) and Cycocel resulted in leaf yellowing.
- The degree of yellowing was visually similar for both chemicals.

# Phytotoxicity

***Cycocel***



***Citadel***

**0**

**500**

**1000**

**1500 mg/L**



# Statistical Significance

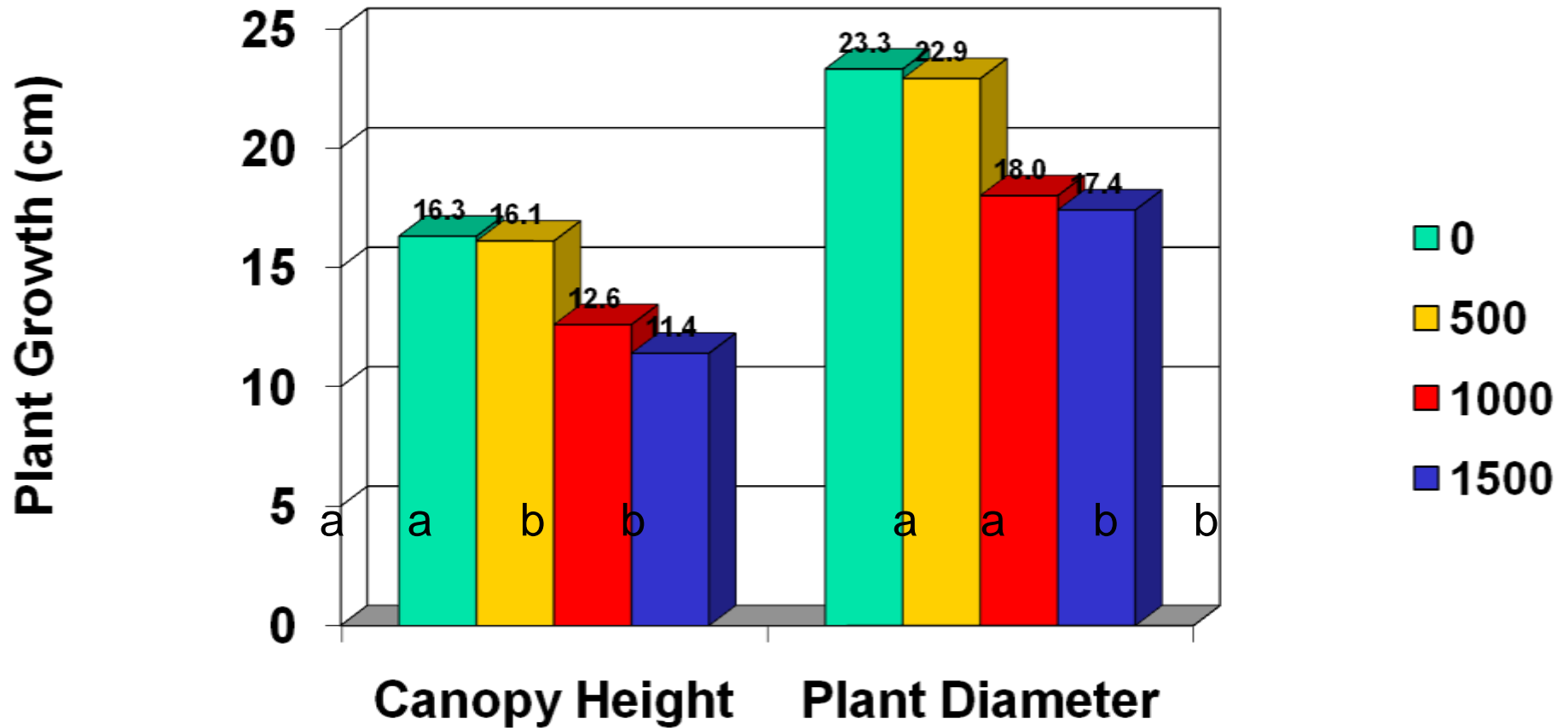
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- Citadel (FAL1101)
  - Canopy Height
    - Concentrations  $\geq 1,000$  mg/L significantly controlled plant growth
    - ( $P \leq 0.001$ ,  $r^2 = 0.64$ )
  - Plant Diameter
    - Concentrations  $\geq 1,000$  mg/L significantly controlled plant growth
    - ( $P \leq 0.001$ ,  $r^2 = 0.55$ )



# Seed Geranium

Citadel (FAL1101)



# Citadel - Seed Geranium



**0**

**500**

**1000**

**1500**





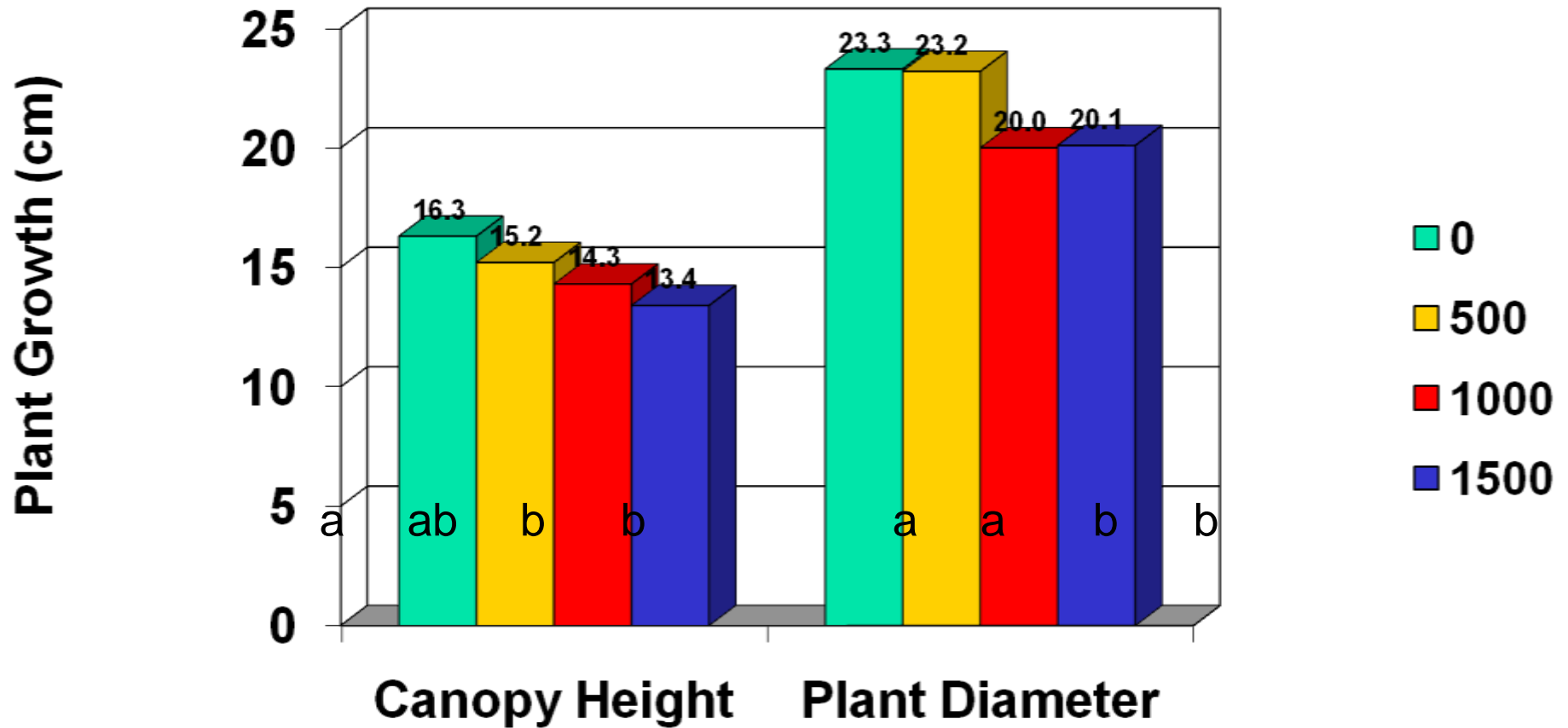
# Statistical Significance

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- Cycocel
  - Canopy Height
    - Concentrations  $\geq 1,000$  mg/L significantly controlled plant growth
    - ( $P \leq 0.03$ ,  $r^2 = 0.35$ )
  - Plant Diameter
    - Concentrations  $\geq 1,000$  mg/L significantly controlled plant growth
    - ( $P \leq 0.05$ ,  $r^2 = 0.32$ )

# Seed Geranium

Cycocel



# Cycocel - Seed Geranium



**0      500      1000      1500**





# Comparing Formulations

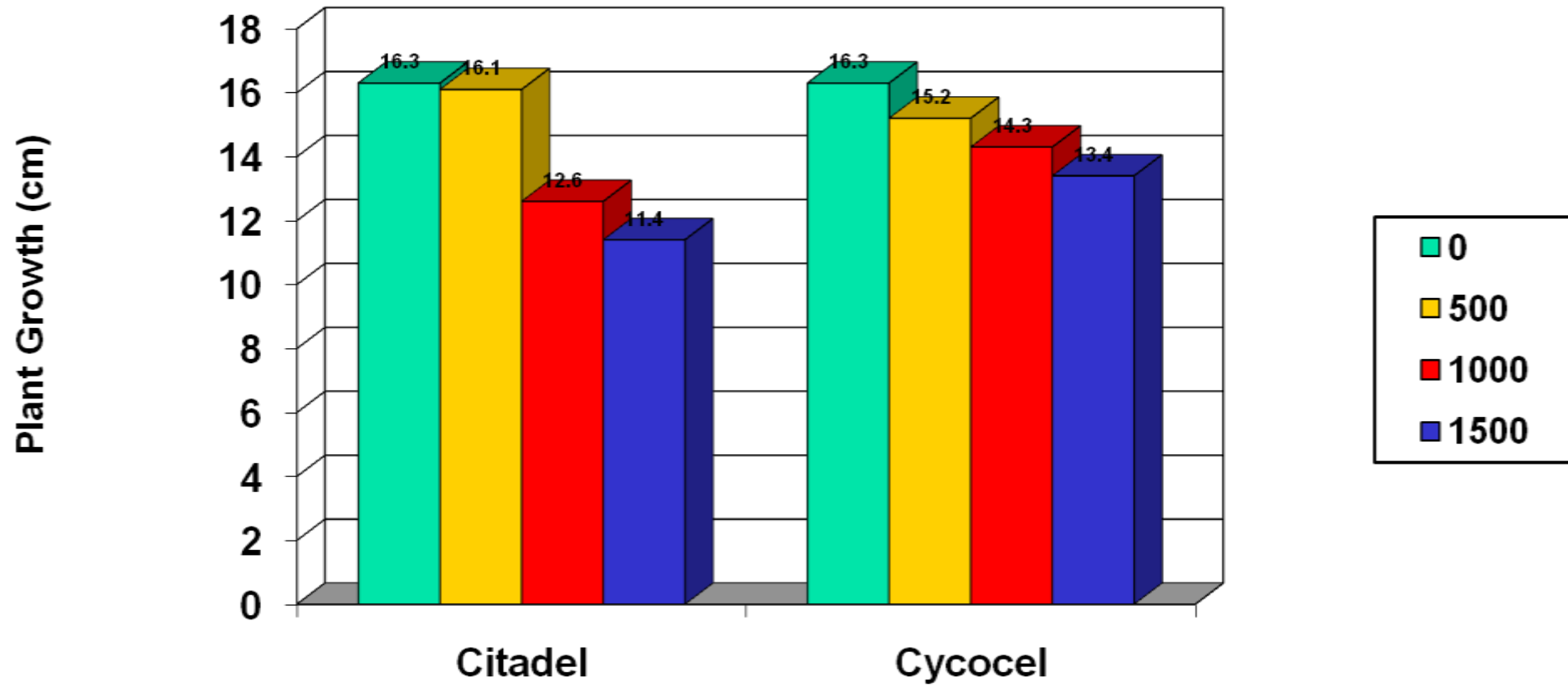
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## ■ Canopy Height

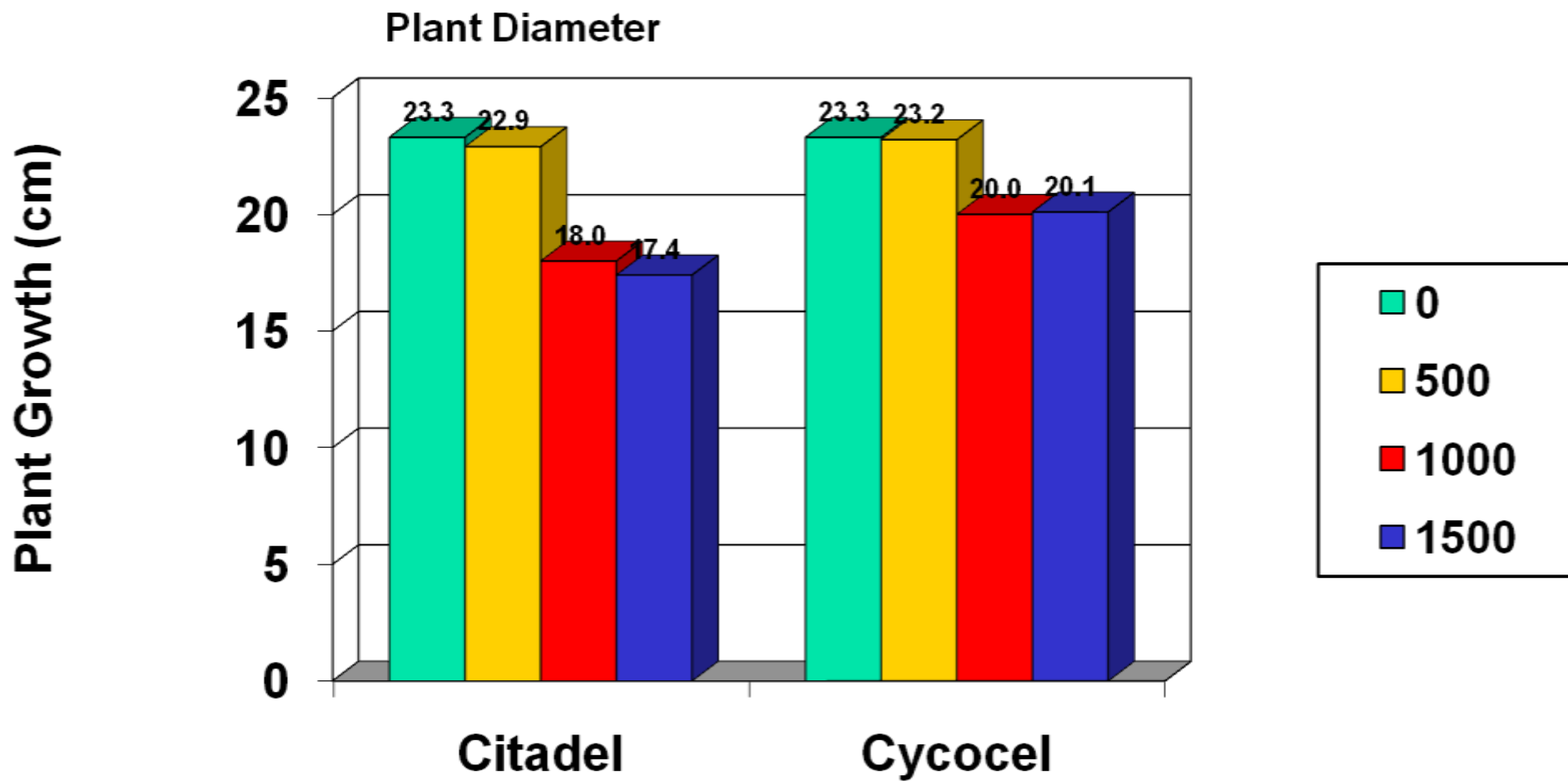
- Both formulations significantly controlled canopy height at concentrations  $\geq 1,000$  mg/L.
- Significance was greater with Citadel than Cycocel [( $P \leq 0.001$ ,  $r^2 = 0.64$ ) and ( $P \leq 0.03$ ,  $r^2 = 0.35$ ), respectively]
- The degree of control was higher with Citadel than Cycocel, as reflected in the significance of the linear regression models.
  - Citadel:  $y = 16.54 - 0.0034x$
  - Cycocel:  $y = 16.54 - 0.00217x$

# Seed Geranium NCSU; 2007

## Canopy Height



# Seed Geranium NCSU; 2007





# Seed Geranium



**0      500      1000      1500**





# Comparing Formulations

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- Plant Diameter

- Both formulations significantly controlled canopy height at concentrations  $\geq 1,000$  mg/L.
- Significance was greater with Citadel than Cycocel [ $(P \leq 0.001, r^2 = 0.55)$  and  $(P \leq 0.05, r^2 = 0.32)$ , respectively]
- The degree of control was higher with Citadel than Cycocel, as reflected in the significance of the linear regression models.
  - Citadel:  $y = 23.69 - 0.00443x$
  - Cycocel:  $y = 23.69 - 0.00269x$



# Conclusions

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- Both Citadel and Cycocel controlled plant growth at concentrations  $\geq 1,000$  mg/L.
- In this trial, Citadel had a slightly greater degree of control than Cycocel.
  - This contrasts earlier studies in which the efficacy of Citadel and Cycocel were similar.

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