

# **Tropical Spiderwort Winning The Battle In Georgia Cotton**



# Cotton Production in Georgia

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- 804 million dollar industry (03 farm gate)
- 2<sup>nd</sup> in Georgia only to broliers
- Acres planted 1.2 to 1.4 million

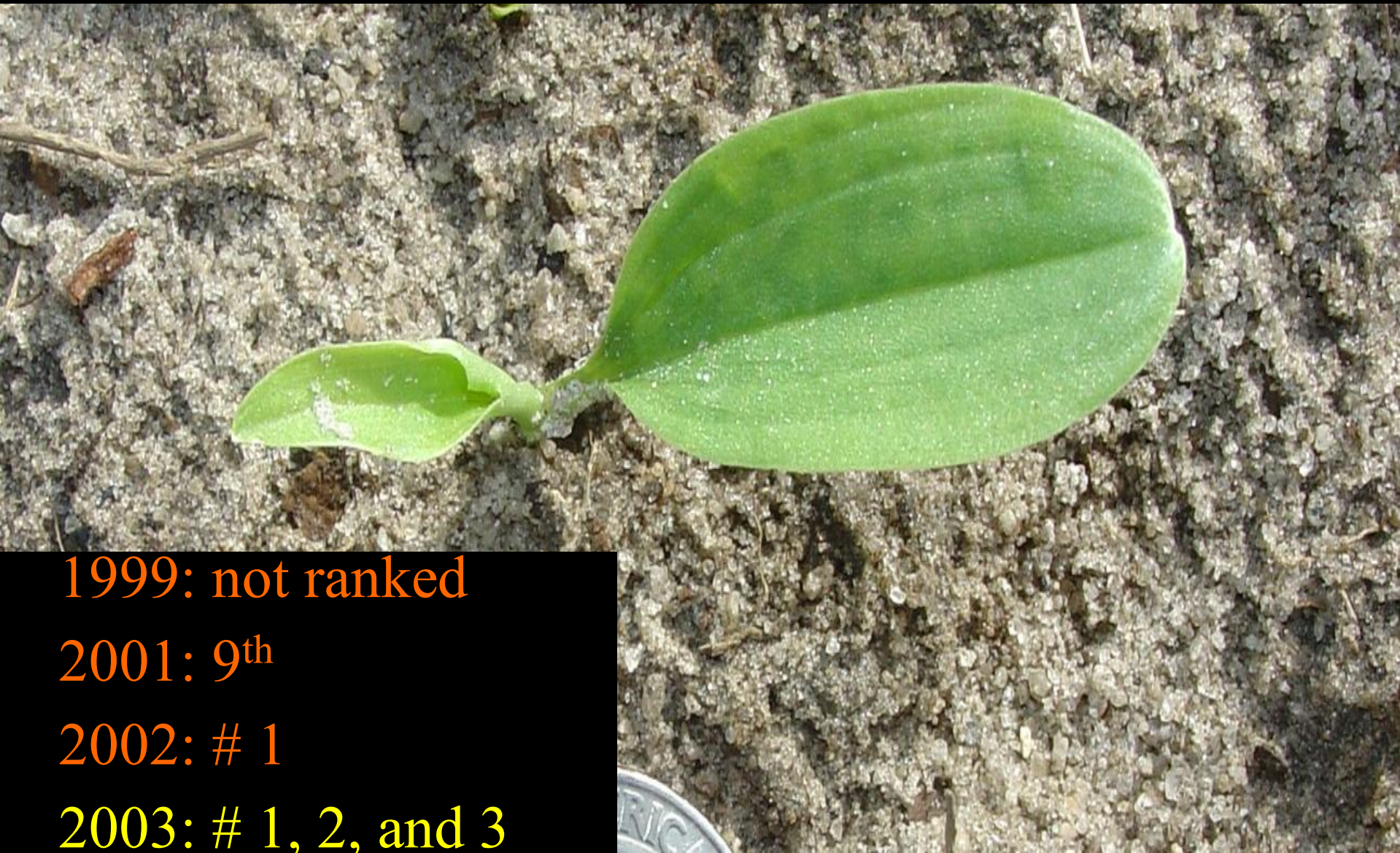
# **Areas of Significant Investment by UGA Weed Science**

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- **Tropical spiderwort**
- **Roundup Ready Flex cotton**



# Spiderworts Rank as Georgia's Most Troublesome Weed in Cotton



1999: not ranked

2001: 9<sup>th</sup>

2002: # 1

2003: # 1, 2, and 3



# Spiderwort Response to Roundup\*



1.0 X none



1.5 X none



2.0 X none

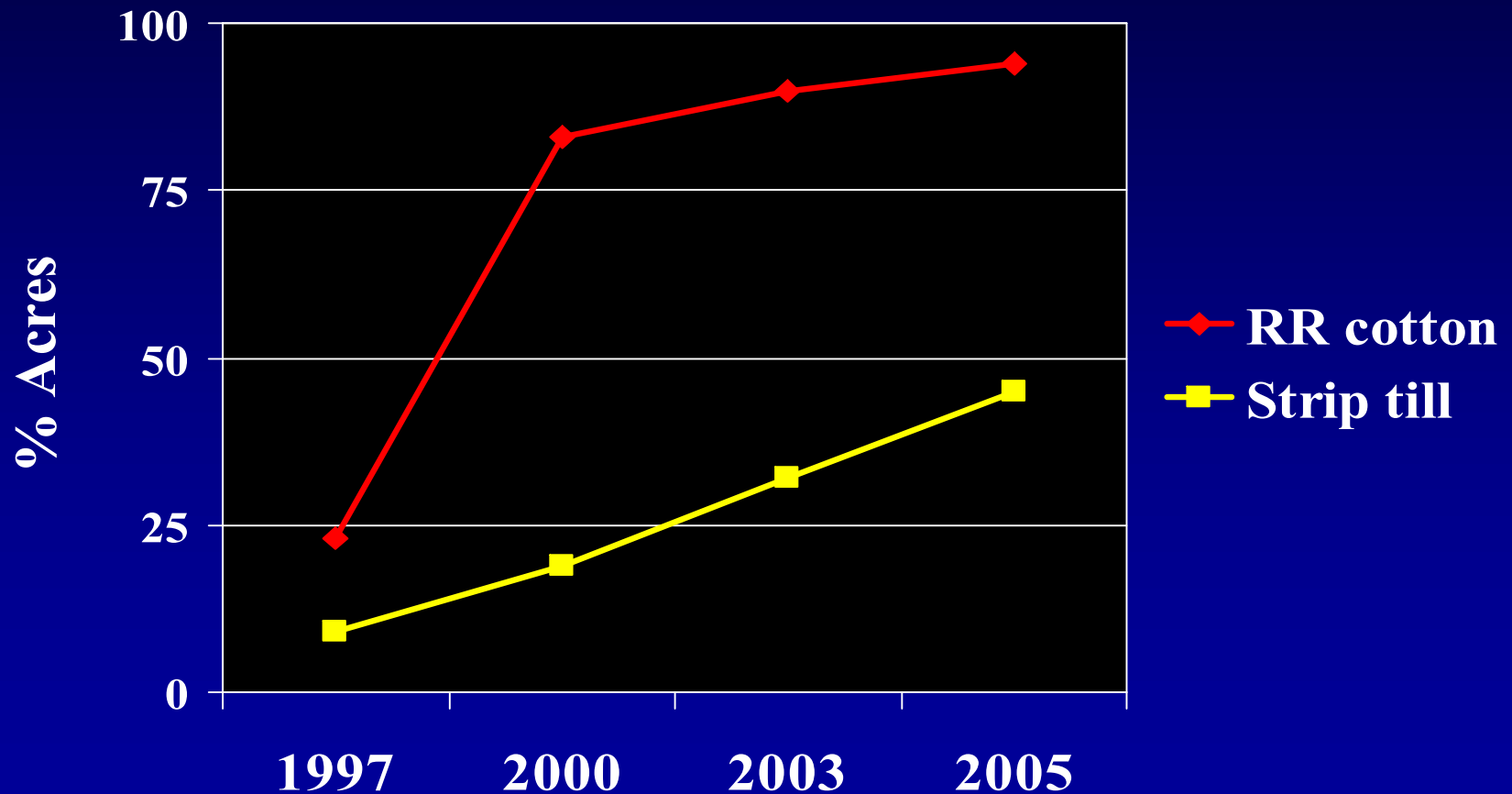


3.3 X none

\*Pictures 15 d after treatment. No plants died from any treatment. Six inch at time of application.

# Estimated Glyphosate-Resistant Planted Acres.

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# Why Has This Dramatic Shift to Spiderwort Occurred?

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- 1) 94% Roundup Ready
- 2) 44% strip-till
- 3) Greater than 88% not cultivated
- 4) Trends away from effective residual herbicides



# **After About 3 Years Spiderwort Infestations Explode in an Area**







Chris Corkern, 05

# Control Tactics: Dependent on Herbicides

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1. Efforts began in 2000
2. 30+ field trials
3. Over 80 acres
4. Team effort



# Cotton Herbicide Options

PRE

Topical

Directed\*

Caparol

Cotoran

Aim

Cotoran

Dual

Caparol

Direx

Envoke

Cobra

Prowl

Ignite

Direx

Staple

Roundup

Harvade

Zorial

Staple

Layby Pro

MSMA

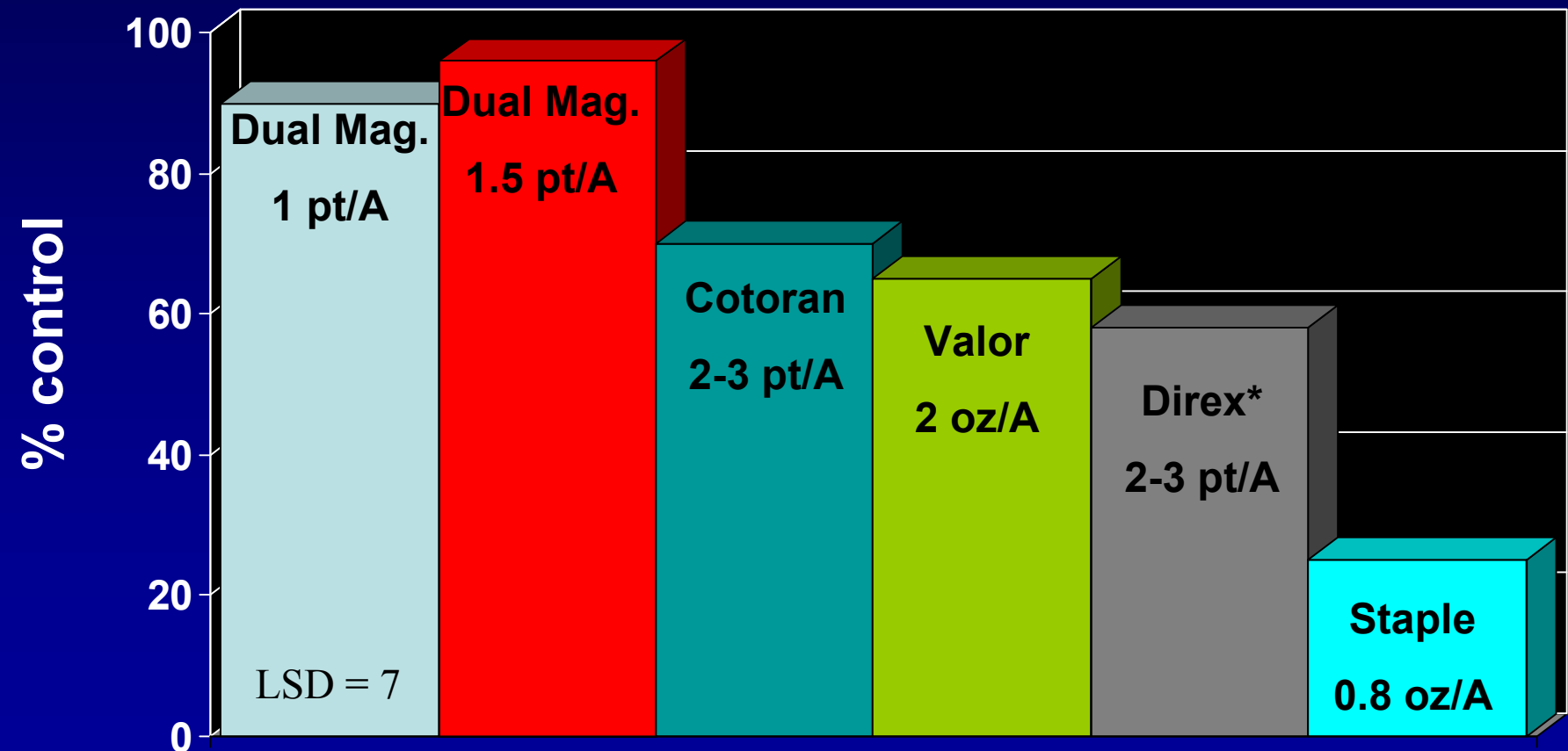
Suprend

Valor

\*Directed options also include all topical herbicides

# Spiderwort Response to Residual Herbicides. Grady Co, 5 Loc., 2002, 2003, 2004.

22 to 26 DAT

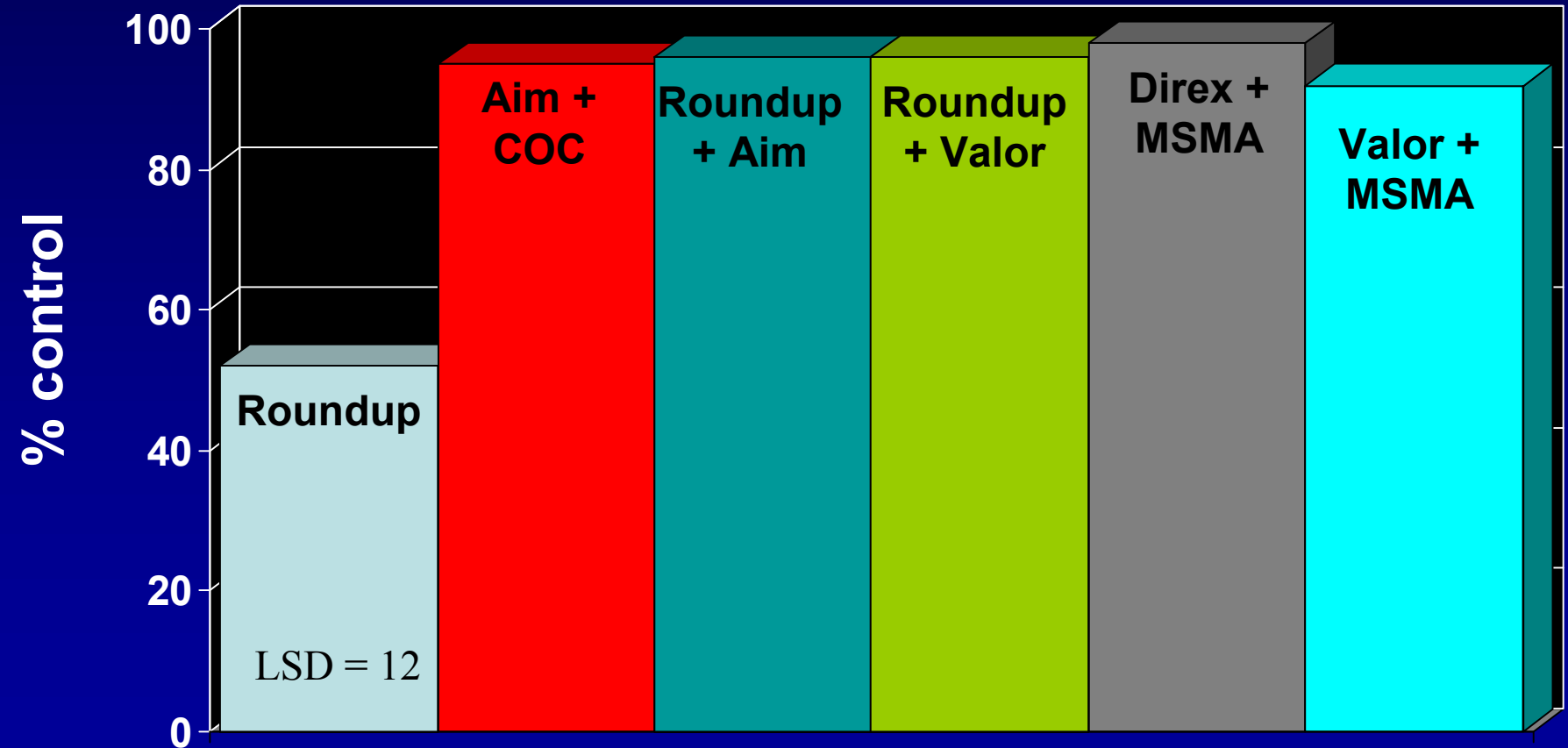


\*Similar results noted with Direx and Caparol in 2003; Direx more effective in 2004.



# Layby Herbicides With POST Control. Grady Co, 2005.

7 DAT



\*Prowl PRE, Roundup early POT



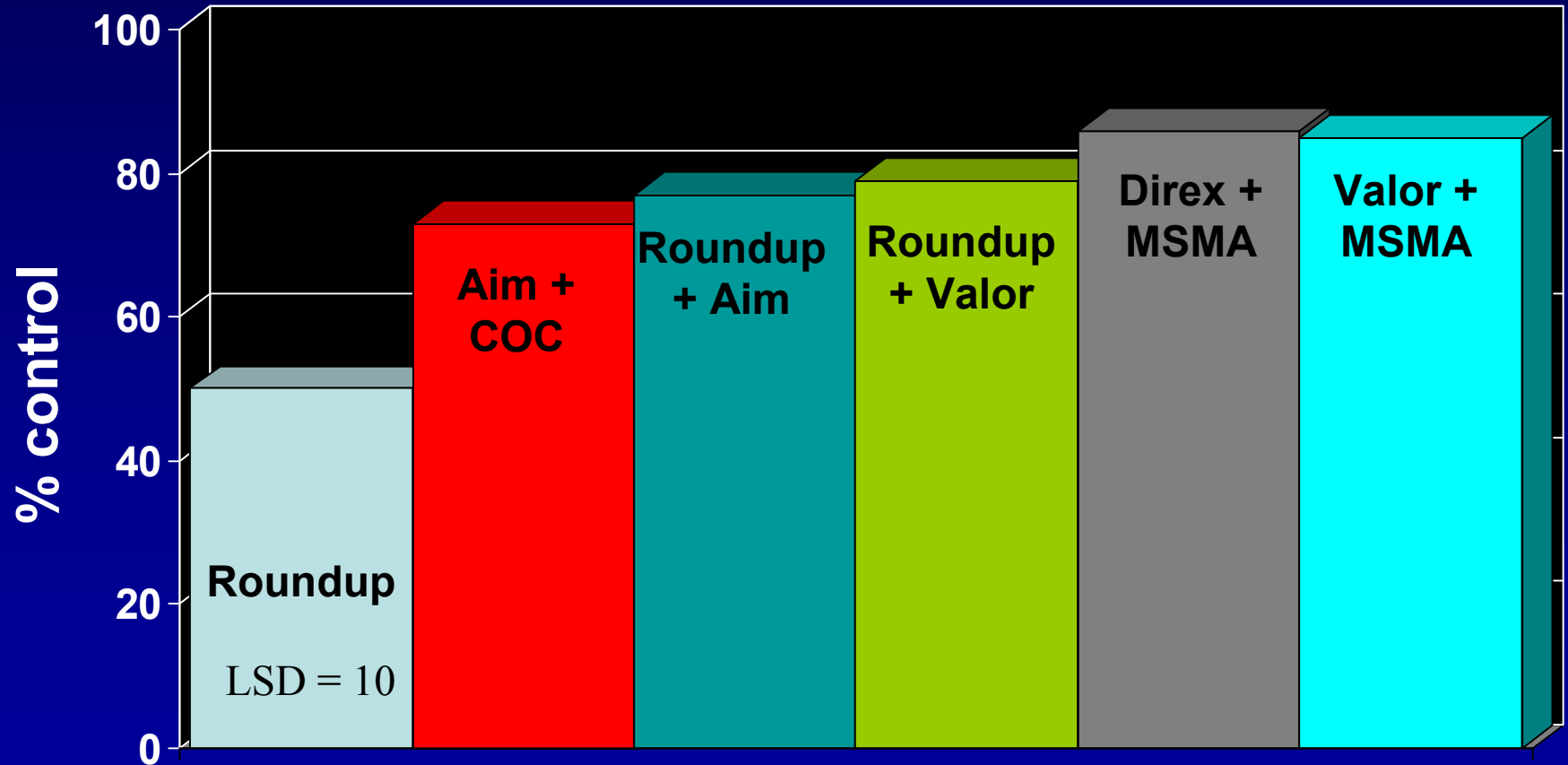


**August 1 emergence after controlling 10 days earlier**



# Layby Herbicides With POST Control. Grady Co, 2005.

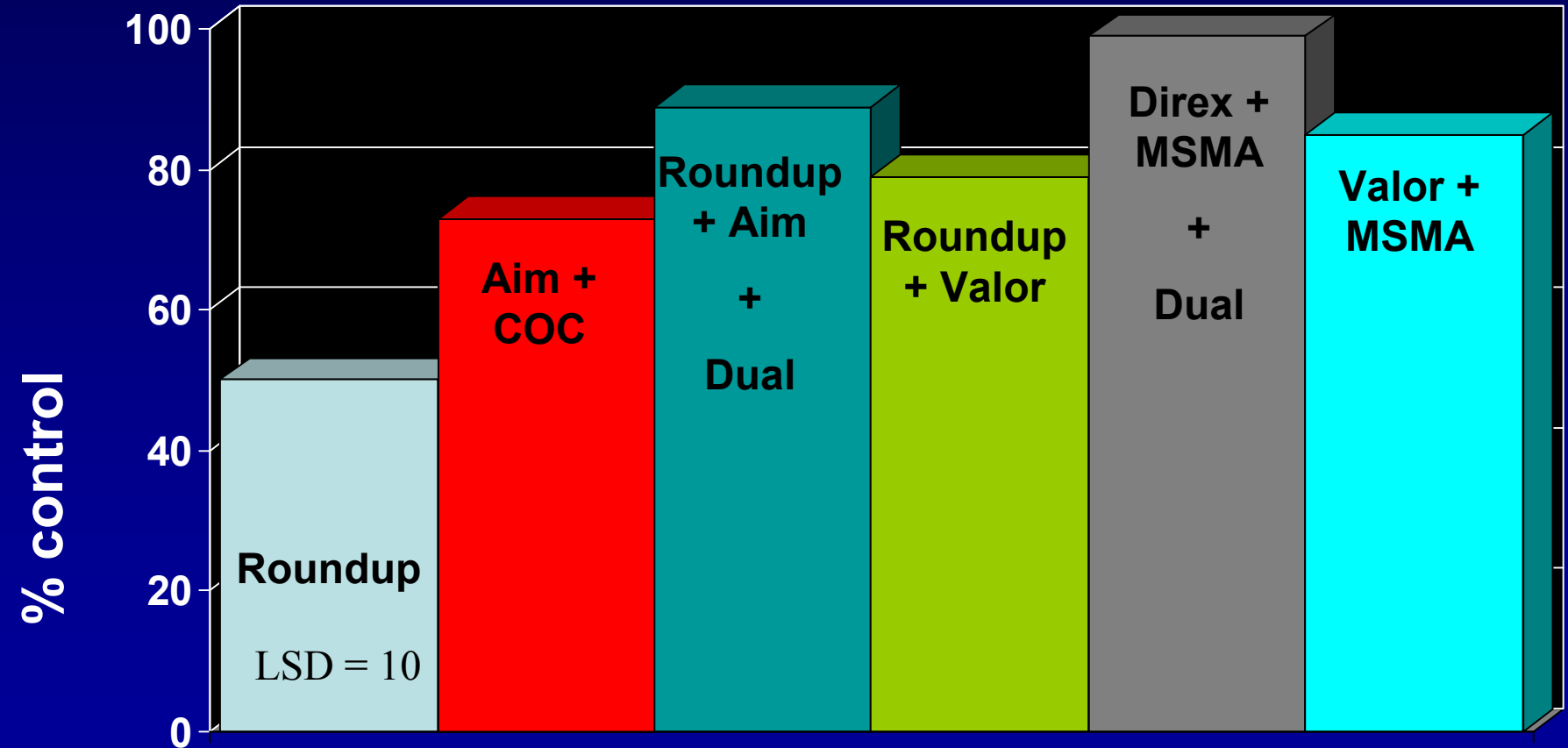
60 DAT



\*Prowl PRE, Roundup early POT

# Layby Herbicides With POST Control. Grady Co, 2005.

60 DAT



\*Prowl PRE, Roundup early POT

# Cotton Herbicide Program Relies on Dual Magnum

Residual

Topical

Directed\*

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Dual Magnum

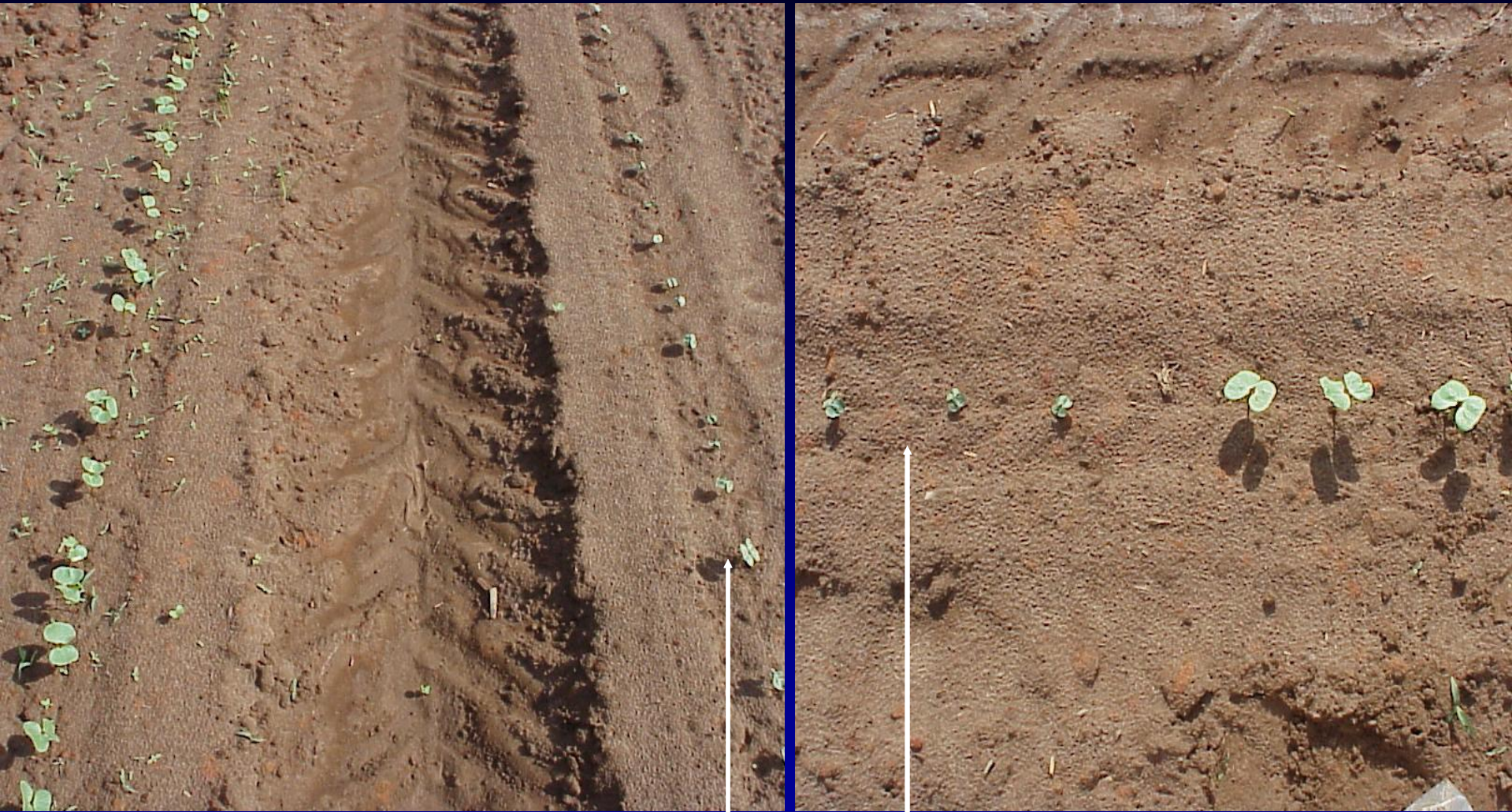


# Dual Program Easy to Implement?

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1. Severe injury can occur if applied PRE to cotton

# Do Not Use Dual PRE on Georgia Soils



Dual Magnum PRE

# Dual Program Easy to Implement?

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1. Severe injury can occur if applied PRE to cotton
2. Must apply after cotton emerged







# Dual Program Easy to Implement?

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1. Severe injury can occur if applied PRE to cotton
2. Must apply after cotton emerged
3. Don't rain don't work
4. Rains more than an inch or two control <20 d

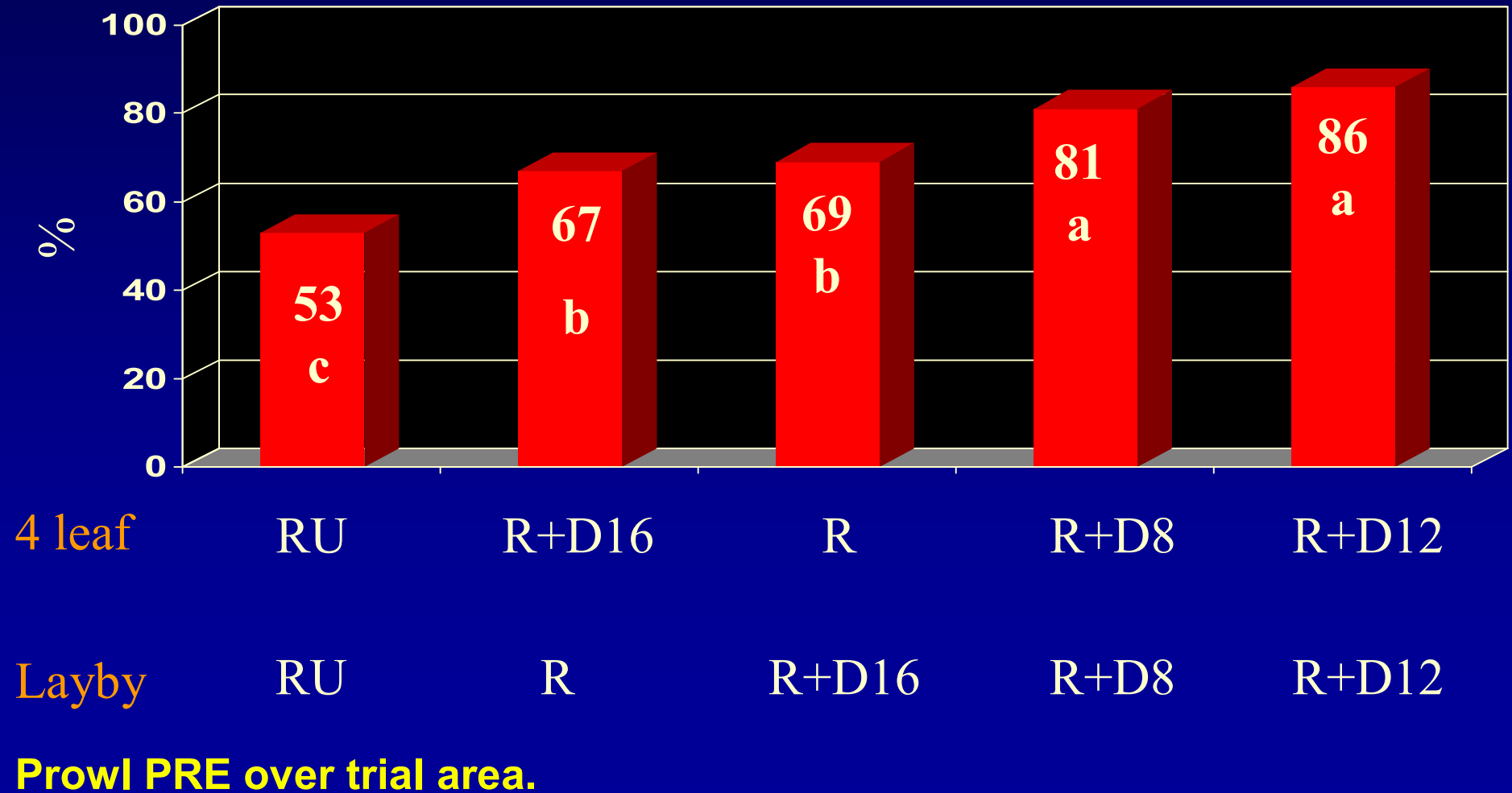


# Dual Program Easy to Implement?

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1. Severe injury can occur if applied PRE to cotton
2. Must apply after cotton emerged
3. Doesn't rain doesn't work
4. Rains more than an inch or two control <20 d
5. Increased weed management cost at least 25%, whether it works or not.

# Tropical Spiderwort Control at Late-Season. Grady County, Averaged over 2004 and 2005.





# Control 17 Days After Treatment.

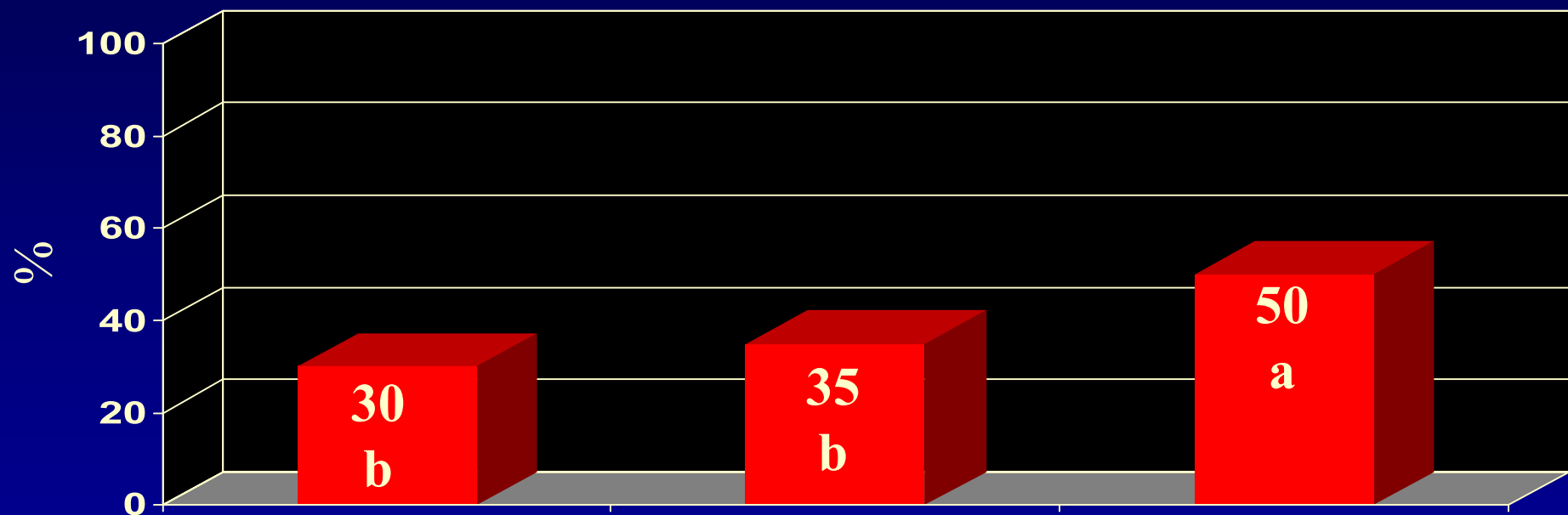


RU + Dual 16 oz EPOST fb RU



RU + Dual 12 oz Sequentially

# Tropical Spiderwort Response to Herbicide Programs in Terrell County. 2005.



4 leaf

RU

R+D8

R+D12

Layby

Direx/MSMA

Direx/MSMA  
+Dual Mag 8 oz

Direx/MSMA  
+Dual Mag 12 oz















# What Will Happen in the Future?

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1. The snowball will continue to roll!
2. Adoption of Flex technology will likely increase continued spread.



# Roundup Ready Flex Cotton

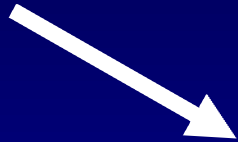
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1. Commercialized in 2006
2. Higher Roundup rates
3. Topical Roundup applications throughout the season

# Since The Commercialization of the Current RR Technology

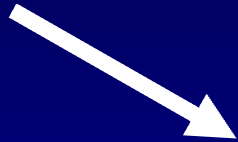


# What Happens With RR Flex?





**Lots of Roundup and  
Lots of Dual...  
....Resistance??**



# 2006 Cotton Program

1. Plant early
2. Plant aggressively growing cultivar (shade soil early)
3. Reduce seed production after other crops!!!!!!
4. Reduce the alarming rate of spread!!!!!!
5. Cotoran PRE (if planting at or near time of emergence)
6. POST herbicide needs to include Dual
7. Layby herbicide options

Aim, **Dual**, Direx, Valor, Roundup, MSMA

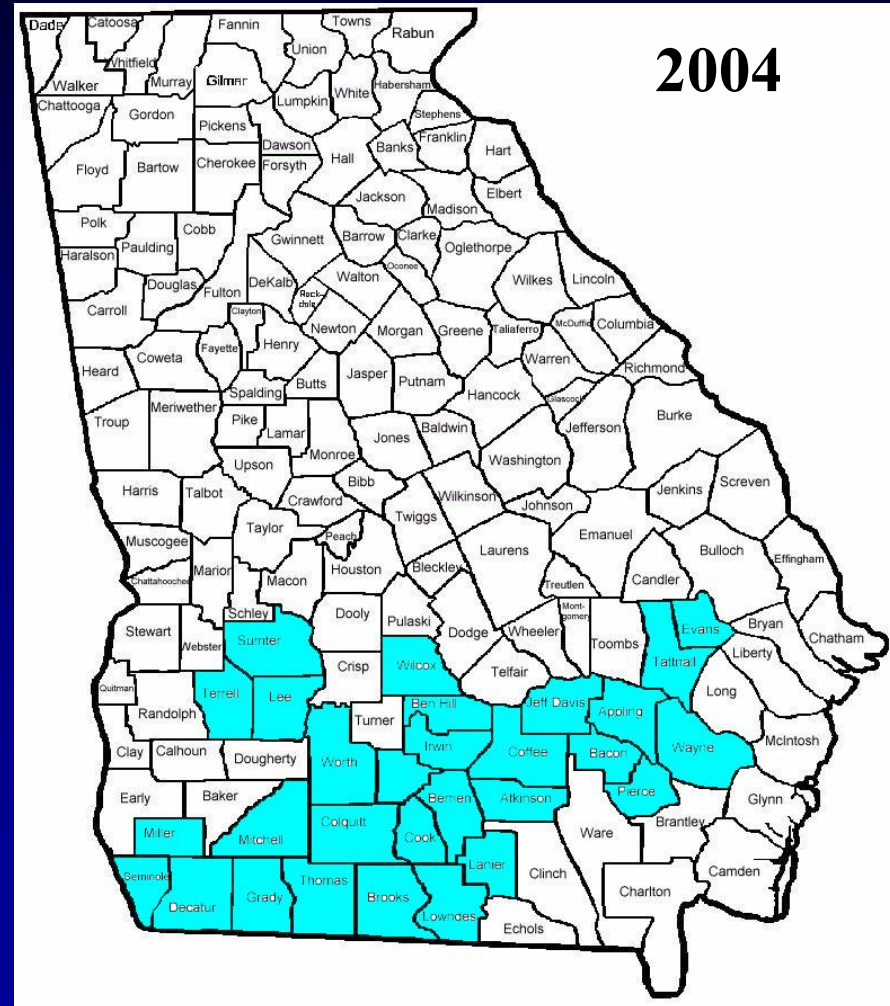
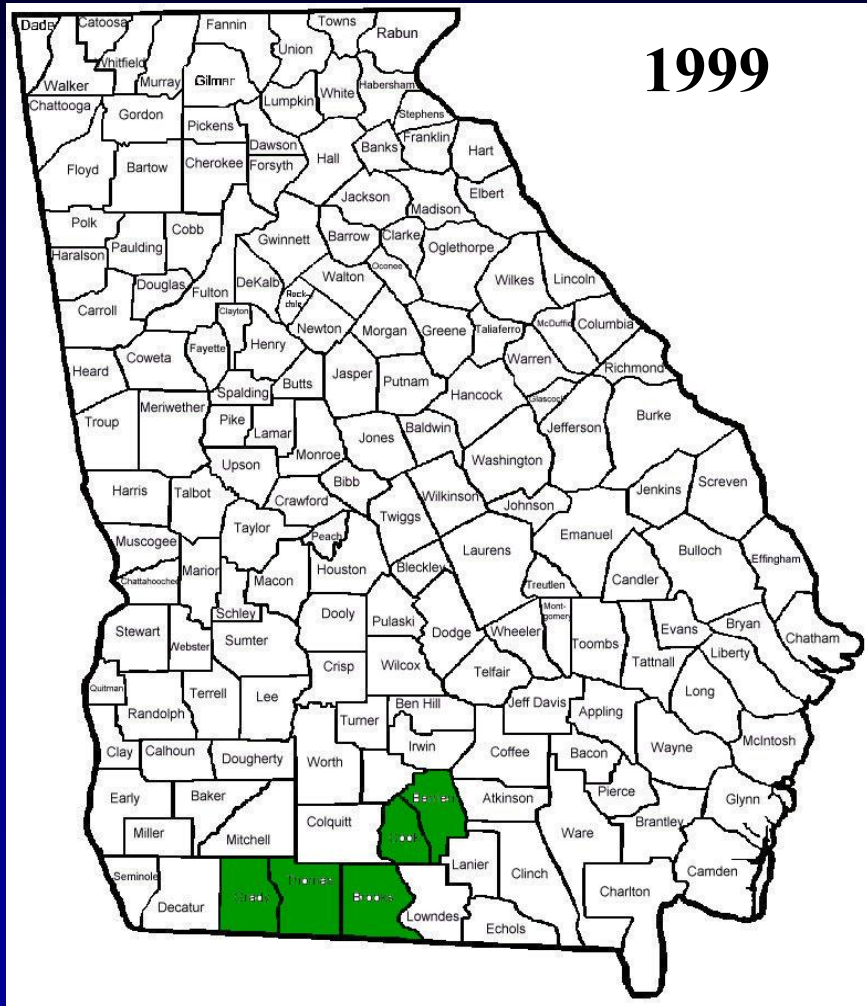
# Conservative Estimates of Cost to Growers in 2005

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100,000 acres treated with 1 pt of Dual  
Magnum = 1.2 million dollars



# Tropical Spiderwort in Georgia



2004 map confirmed by the GA Dept of Ag



**Roundup-Resistant Palmer amaranth**

