

Fall-Spring Management of Glyphosate-resistant Italian Ryegrass

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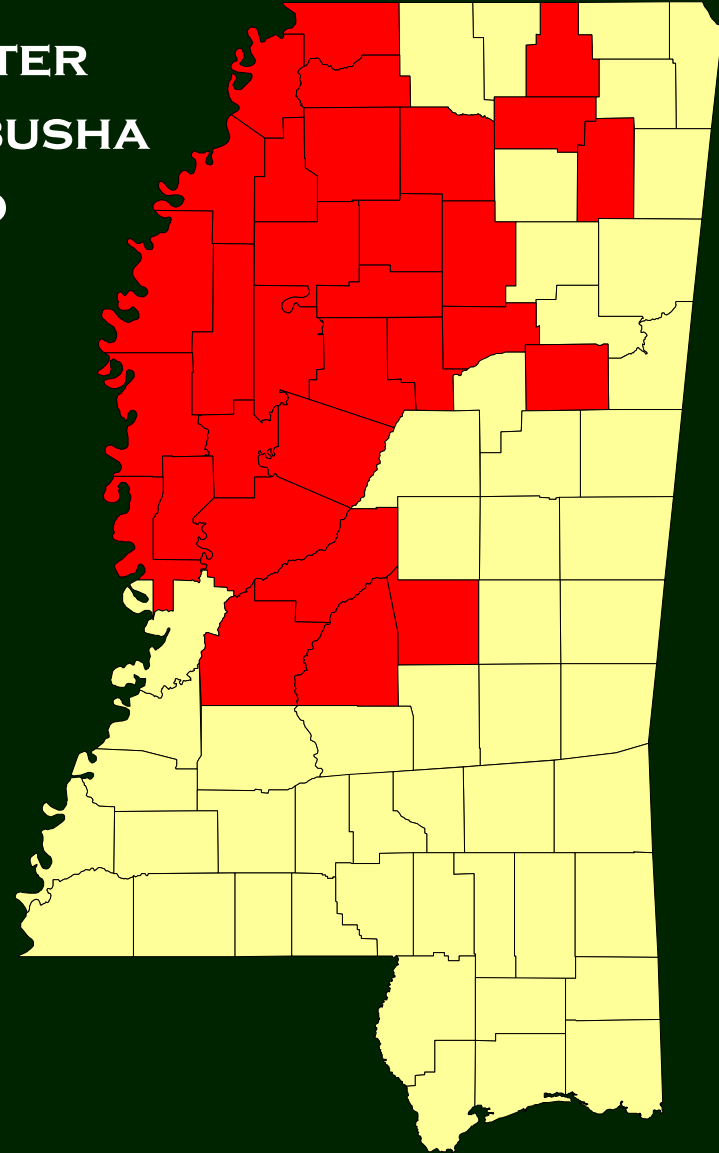


GR Italian Ryegrass-2012

BOLIVAR
CALHOUN
CARROLL
COAHOMA
DESOTO
GRENADA
HINDS
HOLMES
HUMPHREYS
ISSAQUENA
LAFAYETTE
LEE
LEFLORE
MADISON

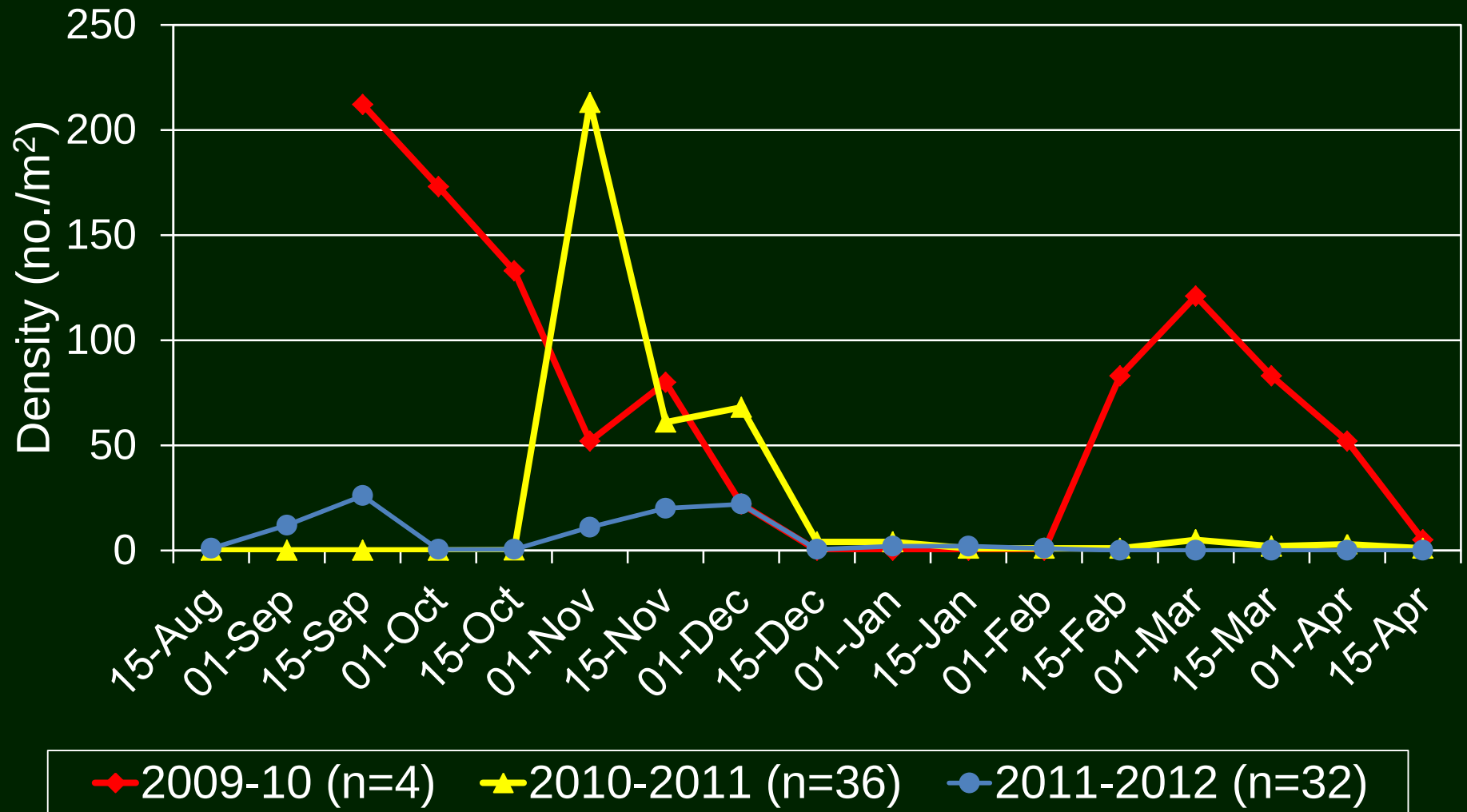
MONTGOMERY
OKTIBBEHA
PANOLA
RANKIN
QUITMAN
SCOTT
SHARKEY
SUNFLOWER
TALLAHATCHIE
TATE
TIPPAH
TUNICA
UNION
WASHINGTON

WEBSTER
YALOBUSHA
YAZOO



Emergence Patterns

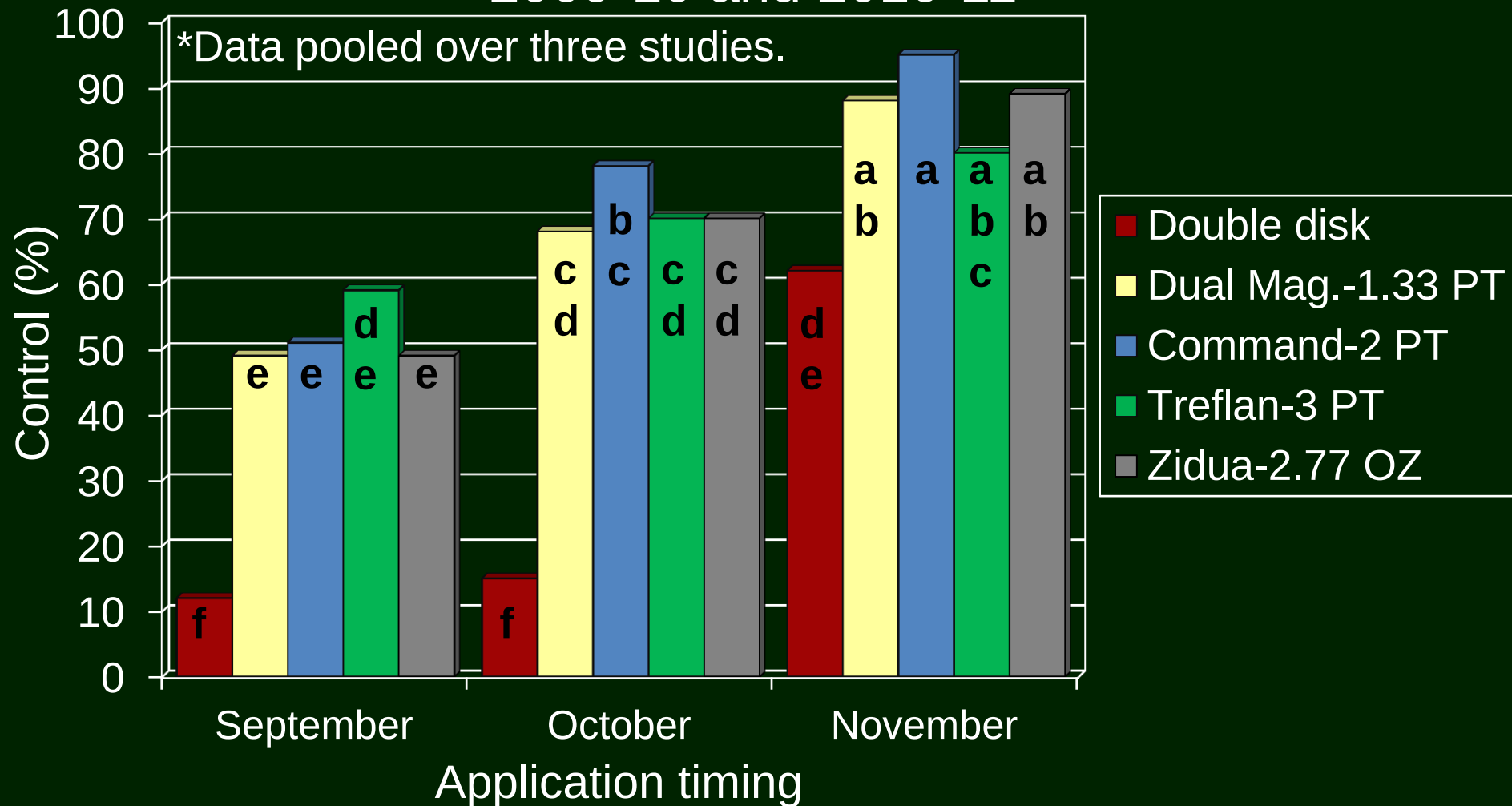
GR Italian Ryegrass Emergence in Mississippi



Residual Herbicide Timing

GR Italian Ryegrass Control in Early-March

2009-10 and 2010-11



Does Tillage Help?

Double disk treatments



September timing



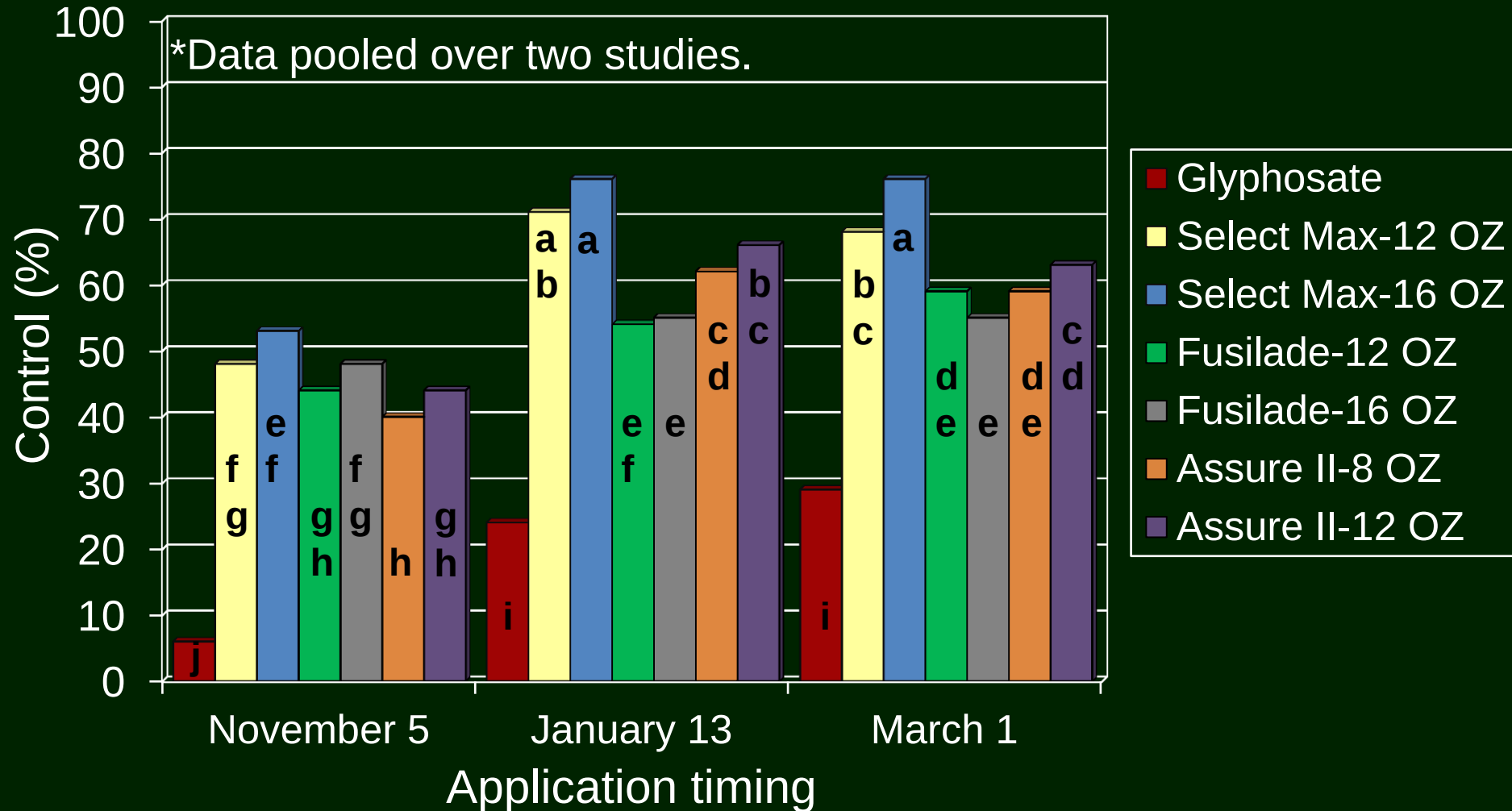
October timing



November timing

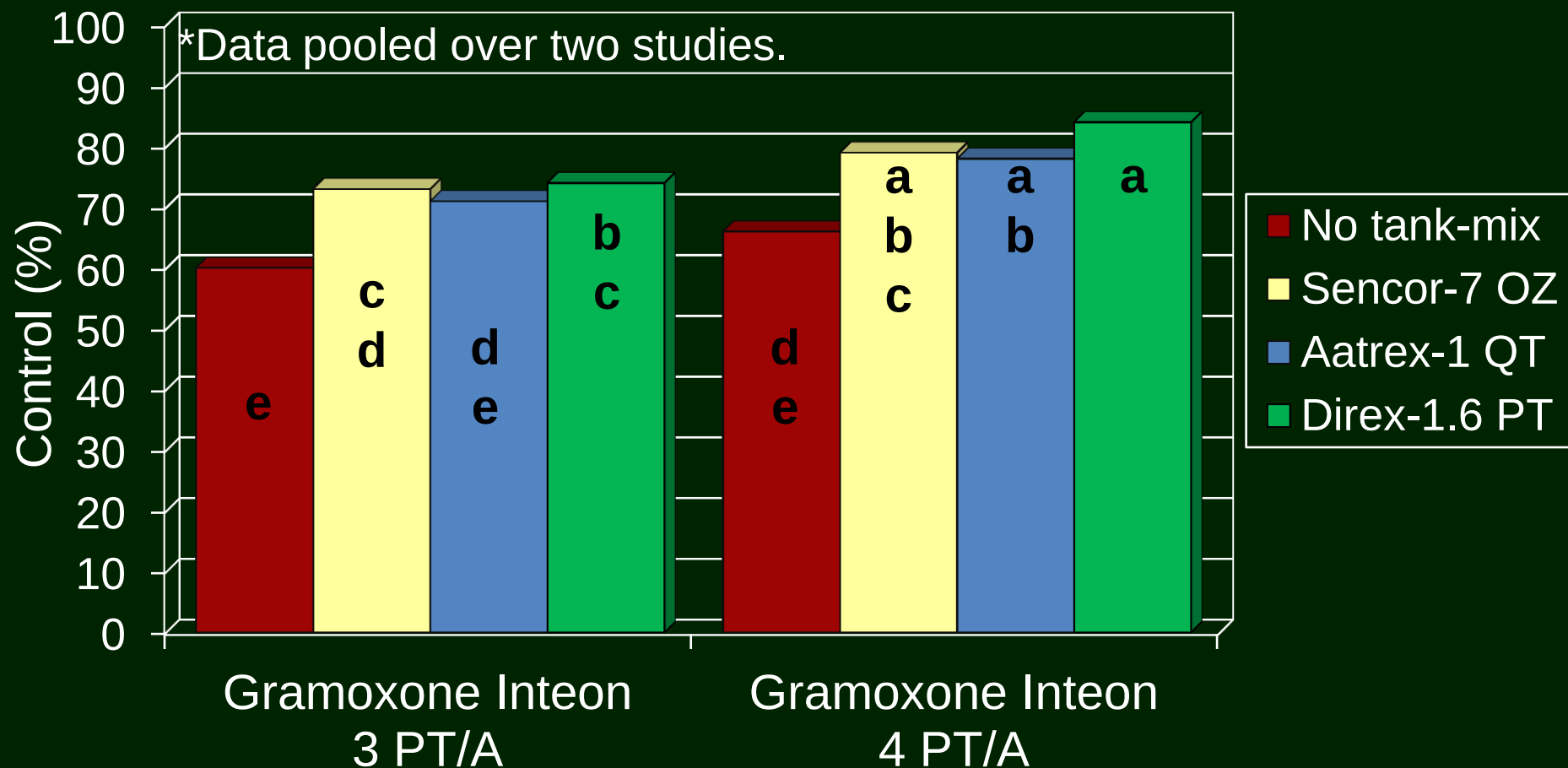
Early-spring Applications

GR Italian Ryegrass Control on April 12, 2010



Late-spring Applications

Gramoxone Inteon Tank-mixtures GR Italian Ryegrass Control 28 DAT



Problem

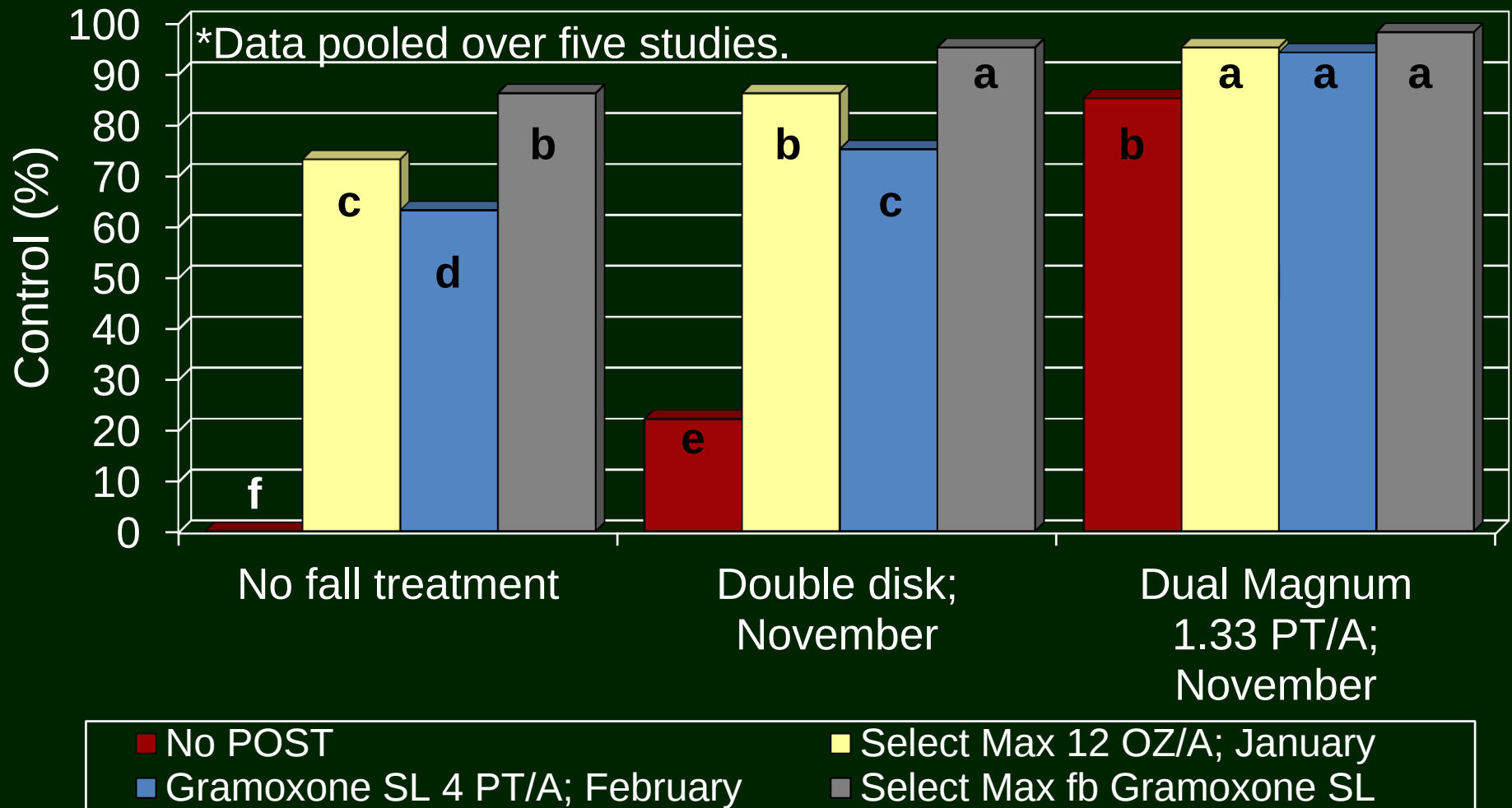
- Only 6 commercial herbicides are effective against GR Italian ryegrass—4 residuals and 2 POST herbicides.
- GR Italian ryegrass has broad emergence window ranging from August-September to March-April.
- Environmental conditions make herbicide applications challenging during the optimum application window.
- Biomass accumulation and stiff straw of Italian ryegrass negatively impact planting and seedling development.

Fall-Spring Programs

- **Factor 1:** Fall application
 - No fall treatment
 - Double disk
 - Dual Magnum at 1.33 PT/A + Gramoxone at 3 PT/A
- **Factor 2:** Winter application
 - No winter treatment
 - Select Max at 12 OZ/A
- **Factor 3:** Spring application
 - No spring treatment
 - Gramoxone SL at 4 PT/A

Fall-Spring Programs

GR Italian Ryegrass Control on 15 Days After Final Treatment



No fall treatment



No POST



Select Max 12 OZ/A; Jan.



Gramoxone SL 4 PT/A; Feb.



Select Max fb Gramoxone SL

March 20, 2012

Double disk; November



No POST



Select Max 12 OZ/A; Jan.



Gramoxone SL 4 PT/A; Feb.



Select Max fb Gramoxone SL

March 20, 2012

Dual Magnum at 1.33 PT/A; November



No POST



Select Max 12 OZ/A; Jan.



Gramoxone SL 4 PT/A; Feb.

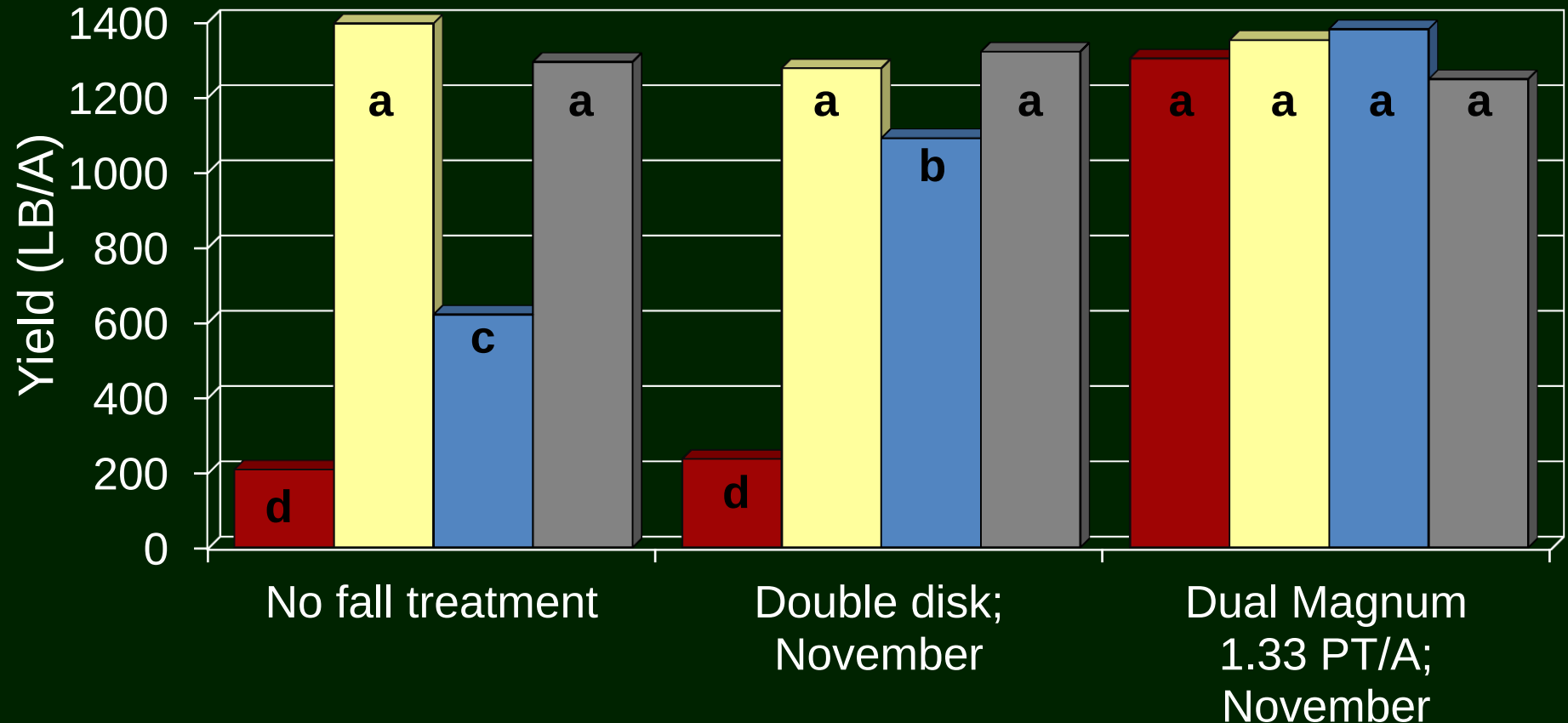


Select Max fb Gramoxone SL

March 24, 2011

Fall-Spring Programs

Cotton Yield Following Italian Ryegrass Control Programs



■ No POST

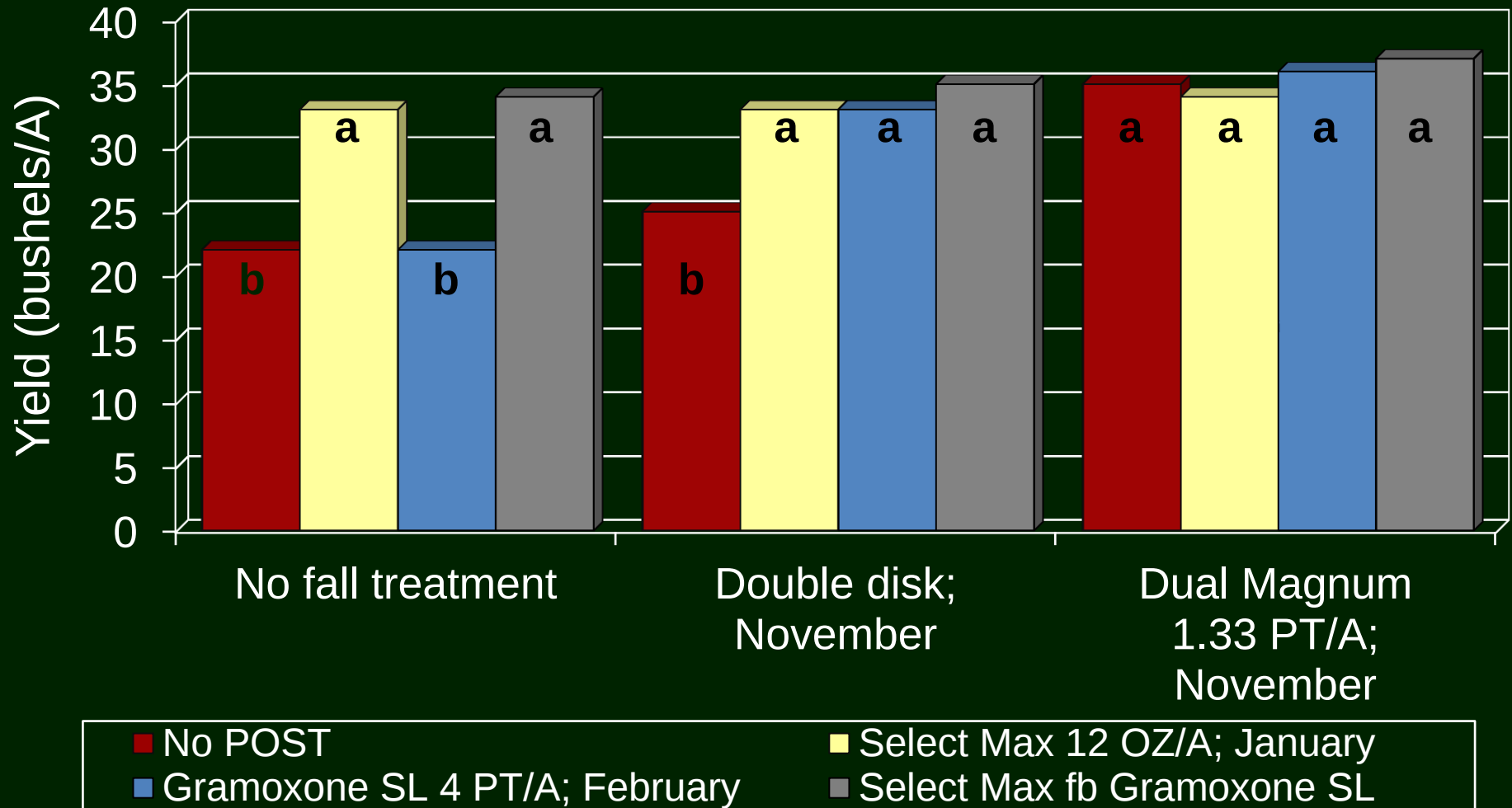
■ Gramoxone SL 4 PT/A; February

■ Select Max 12 OZ/A; January

■ Select Max fb Gramoxone SL

Fall-Spring Programs

Soybean Yield Following Italian Ryegrass Control Programs



Fall-Spring Programs

May 18, 2012



Gramoxone SL in March



**Dual Magnum in November
fb Gramoxone SL in March**

Fall-Spring Programs

August 16, 2012



Gramoxone SL in March



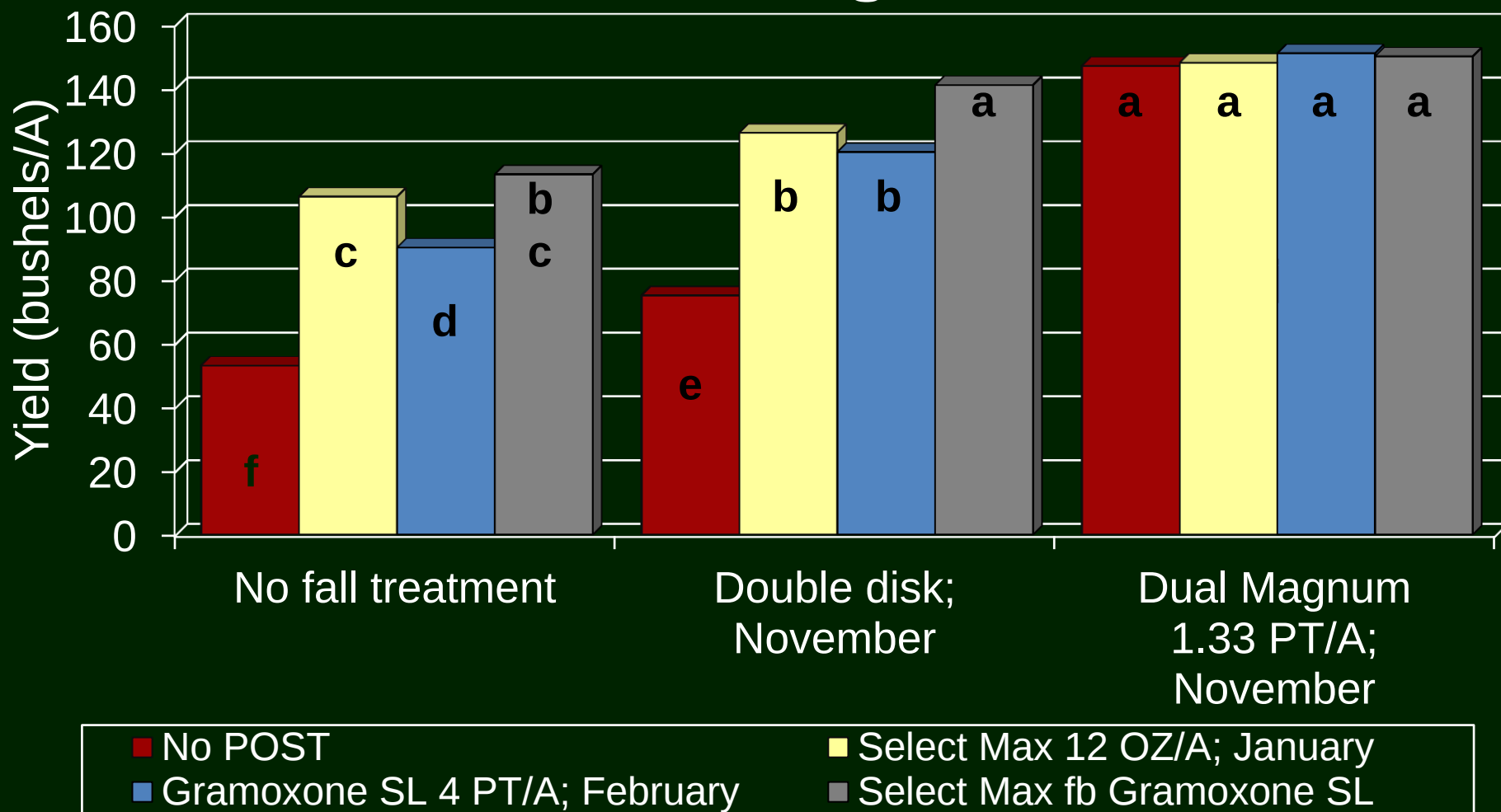
**Dual Magnum in November
fb Gramoxone SL in March**

Italian Ryegrass in Corn



Fall-Spring Programs

Corn Yield Following Italian Ryegrass Control Programs



Cost = \$28/A

Benefit:Cost = \$11/A



**No fall program fb Select Max;
Jan. fb Gramoxone; Feb.**

Cost = \$44/A

Benefit:Cost = \$11/A



**Double disk; Nov. fb Select Max;
Jan. fb Gramoxone; Feb.**

Cost = \$44/A

Benefit:Cost = \$13/A



**Dual Mag. + Gramoxone; Nov.
fb Gramoxone; Feb.**

Cost = \$40/A

Benefit:Cost = \$13/A



**Dual Mag. + Gramoxone; Nov.
fb Select Max; Jan.**

Specified Expense = \$442/A (MSU Ag Econ. 2012 Corn Budget)
Corn Price = \$6.90/bushel

GR Italian Ryegrass

Crop	Fall	Winter	Spring
Corn	Dual Magnum at 1.33 pt/A or Zidua at 2.5 oz/A or double disk	Select Max at 12 to 16 oz/A or equivalent of 2-lb clethodim	One or two applications of paraquat at 0.75 to 1 lb ai/A
Cotton	Dual Magnum at 1.33 pt/A or Treflan at 3 pt/A or double disk	Select Max at 12 to 16 oz/A or equivalent rate of 2-lb clethodim	One or two applications of paraquat at 0.75 to 1 lb ai/A
Soybean	Dual Magnum at 1.33 pt/A or Treflan at 3 pt/A or Boundary at 2 pt/A or double disk	Select Max at 12 to 16 oz/A or equivalent rate of 2-lb clethodim	One or two applications of paraquat at 0.75 to 1 lb ai/A
Rice	Command at 2 pt/A or double disk	Select Max at 12 to 16 oz/A or equivalent rate of 2-lb clethodim	One or two applications of paraquat at 0.75 to 1 lb ai/A

Questions?

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