Peanut Tolerance to KIH-485 in Georgia

E. P. Prostko and T.L Grey
Department of Crop & Soil Sciences
The University of Georgia

KIH-485

- Pyroxasulfone
- Kumiai
- Developed for corn and soybeans
- PRE
- Herbicide Family
  - *Sulfonylioxazoline (?)*
- Herbicide Mode of Action (?)
  - *plant growth inhibitor that affects apical meristem and coleoptile development of plants after seed germination*
- *Low use rates*

KIH-485
Literature Review

- Steele et al., Weed Technology. 2005. 19:866-869. (TX)
  - *Texas panicum (66-90% control)*
  - *Palmer amaranth (97-98% control)*
  - *Velvetleaf (90-97% control)*

- Geier et al., Weed Technology. 2006. 20:622-626. (KS)
  - *Longspine sandbur (64-75% control)*
  - *Green foxtail (78-100% control)*
  - *Palmer amaranth (80-99% control)*
  - *Puncturevine (86-100% control)*

- King et al., Weed Technology. 2007. 21:578-582. (VA)
  - *Shattercane (64-93% control)*

Texas Panicum Control in Georgia Field Corn with KIH-485 Applied PRE (Photo @ 53 DAT) - 2007

NTC

KIH-485 85WG @ 4.2 oz/A
(0.223 lb ai/A)

Wild Radish Control in Georgia Field Corn with KIH-485 Applied PRE (Photo @ 43 DAT) - 2007

NTC

KIH-485 85WG @ 1.67 oz/A
(0.089 lb ai/A)

Tropical Spiderwort Control in Georgia Peanuts with KIH-485 (15 DAT) - 2007

NTC

Gramoxone Inteon @ 12 oz/A
KIH-485 @ 4.2 oz/A
Storm @ 12 oz/A
80/20 @ 0.25% v/v

PE-10-07

Objective

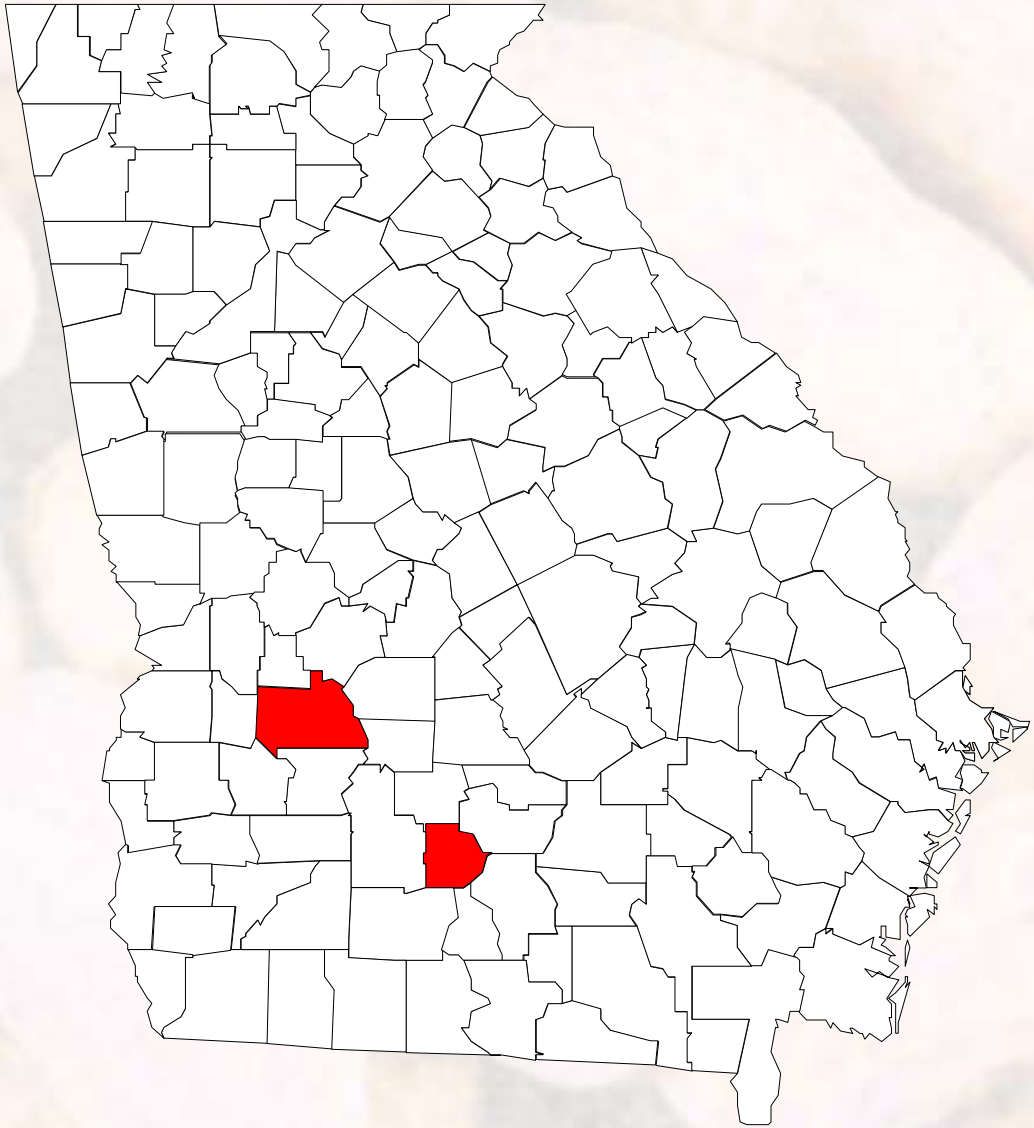
- Evaluate the response of peanut to PRE and POST applications of KIH-485.

Materials and Methods

- 2 locations (2007)
  - *Tifton*
  - *Plains*
- Weed-free
- factorial design
  - *Timing (2)*
    - *PRE or POST*
  - *Rate (5)*
    - KIH-485 85WG
    - 0,2,4,6,8 oz/A
  - *80/20 @ 0.25% v/v added to POST*
- Small-plot techniques

Materials and Methods

Locations



Materials and Methods

	Tifton	Plains
Planting Date	May 8	May 8
Variety	AP-3	Georgia Green
PRE	May 10	May 8
POST	June 21 (44 DAP) R2 Stage	June 28 (51 DAP) R1 Stage
Digging Date	September 17	September 17
Harvest Date	September 26	September 25

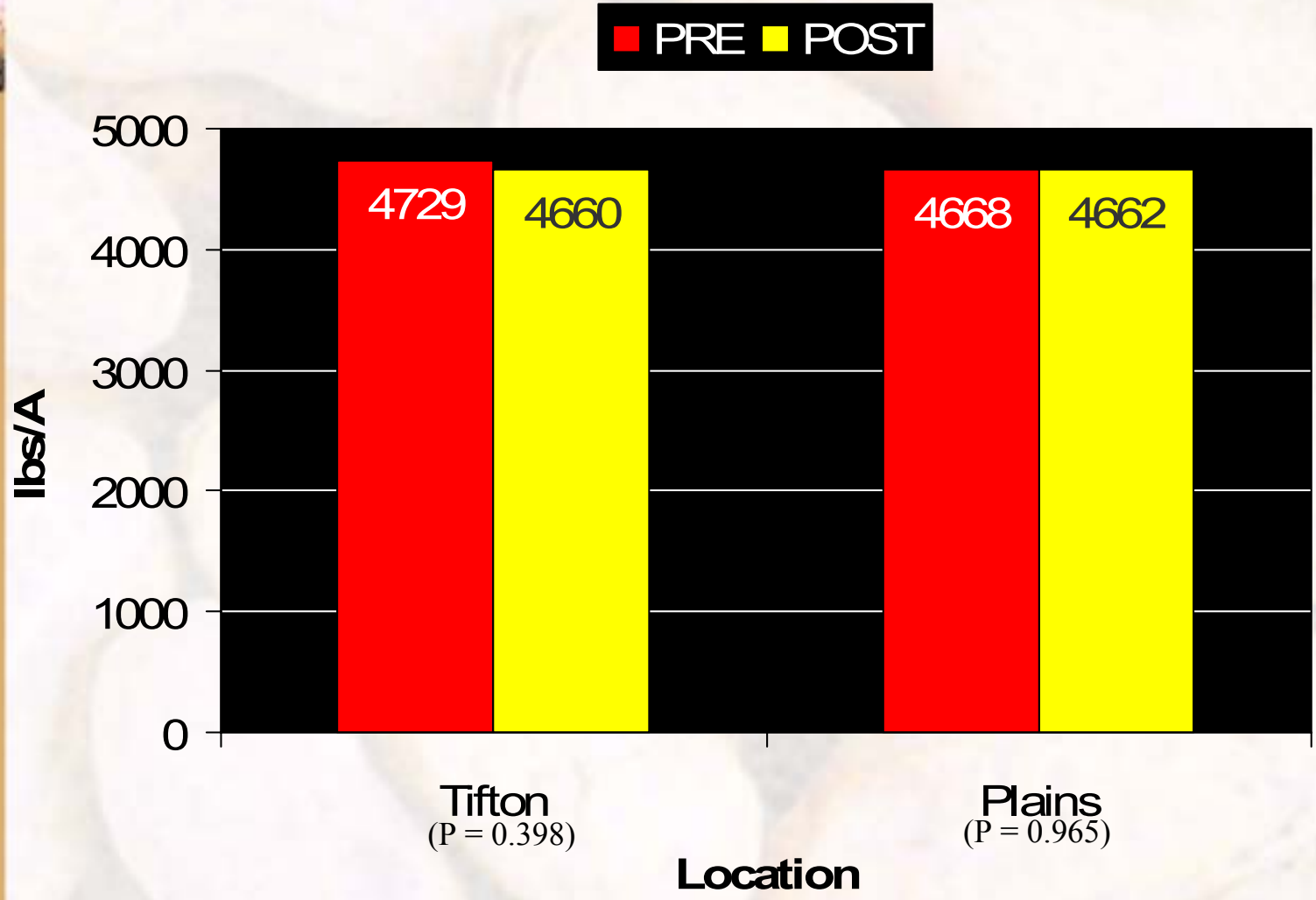
Materials and Methods

	Tifton	Plains
pH	6.0	6.5
OM (%)	0.97	< 0.8
Sand (%)	94	69
Silt (%)	4	15
Clay (%)	2	16

Results

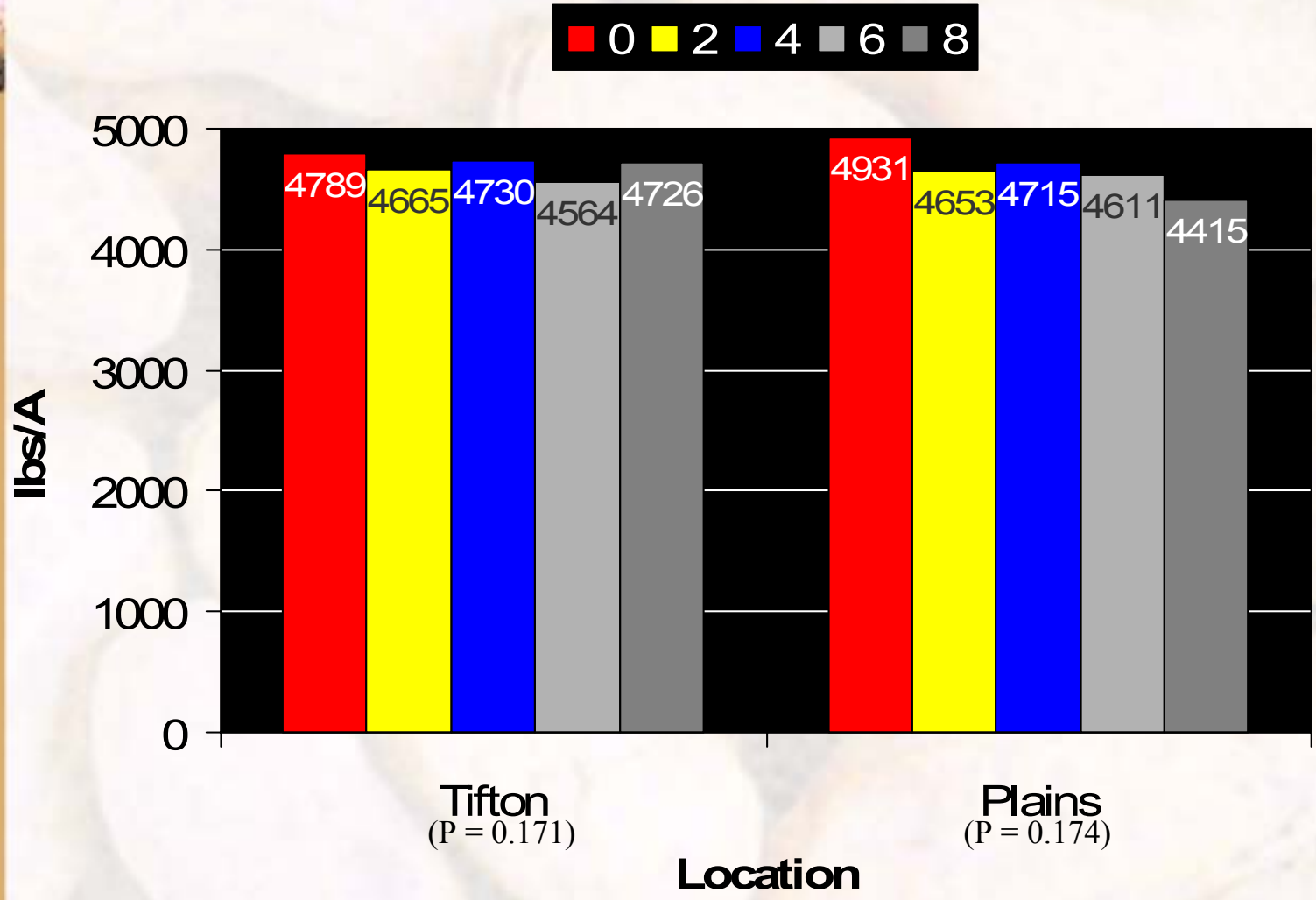
- No interaction between timing or rate at either location.
- No significant crop injury was observed.
  - *(≤ 10% stunting)*
- No effect on TSWV.

The influence of KIH-485 85WG timing on peanut yield.



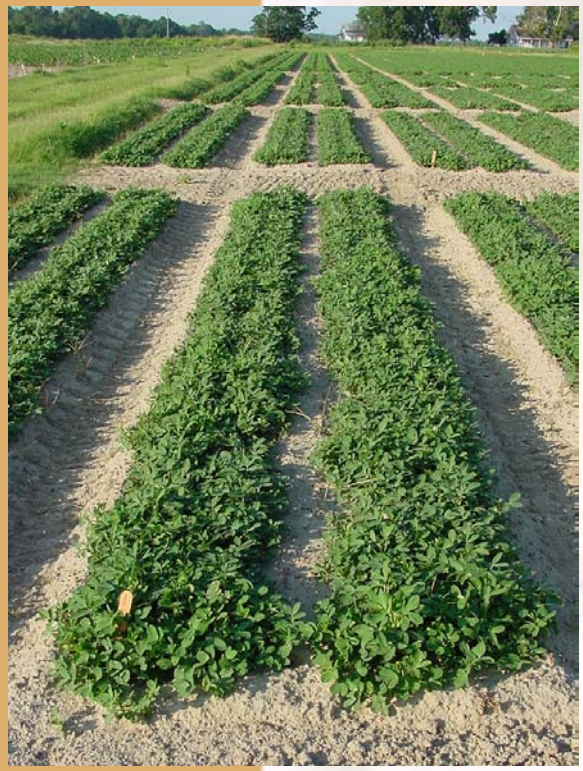
Averaged over 5 rates (0, 2, 4, 6, 8 oz/A)

The influence of KIH-485 85WG rate (oz/A) on peanut yield.



Averaged over 2 timings (PRE and POST)

Peanut Response to KIH-485 (2007)



NTC

KIH-485 85WG @
8.0 oz/A
PRE

KIH-485 85WG @
8.0 oz/A + 80/20 @
0.25% v/v
POST

PD = May 8
PRE = May 10
POST = June 21
PHOTO = June 29
Ponder Farm

Summary

- Peanut had acceptable tolerance to PRE and POST applications of KIH-485 in 2007.
- Similar studies are being repeated in 2008.
  - *Injury at Plains*
- Moisture may be major a factor that influences peanut tolerance to KIH-485.
- POST treatments only??

Peanut Response to KIH-485 (2008)

NTC

KIH-485 85WG @
8.0 oz/A
PRE

PD = May 12
PRE = May 13
PHOTO = May 28
Ponder Farm

Peanut Response to KIH-485 (2008)

NTC

KIH-485 85WG @
8.0 oz/A
PRE

KIH-485 85WG @
8.0 oz/A + 80/20 @
0.25% v/v
POST

PD = May 12
PRE = May 13
POST = June 25
PHOTO = July 8
Ponder Farm

www.gaweed.com
UGA
ARS