

Spider Mite Issues in Cotton



- *Populations exploded*



About Two-Spotted Spider Mites

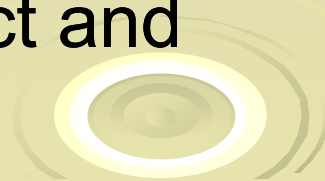
Spider mites thrive in a hot and dry climate

Spider mites usually feed on the underside of leaves

Spider mites can be difficult to control

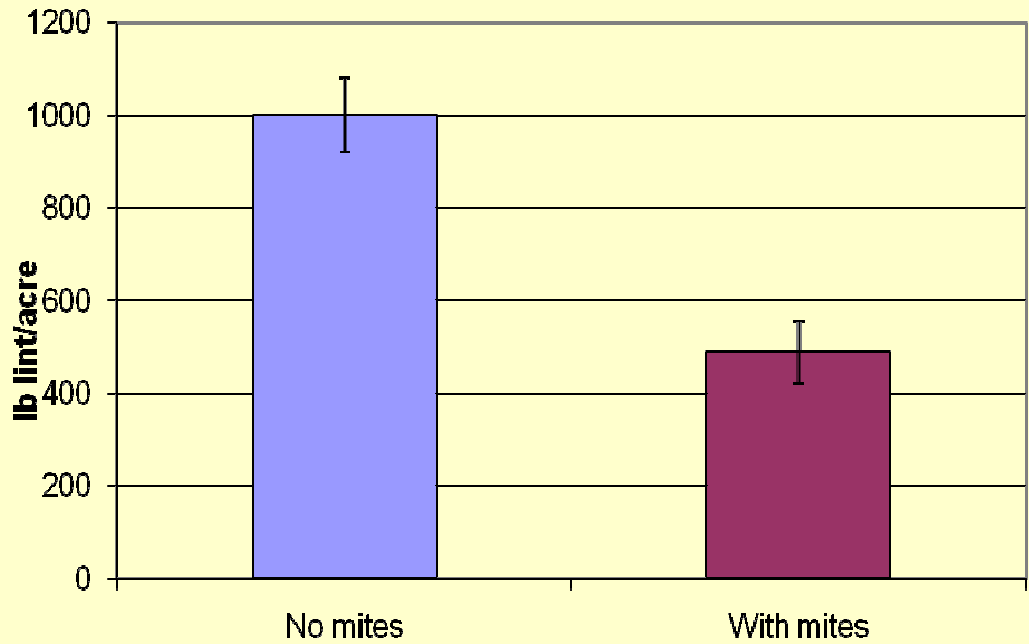
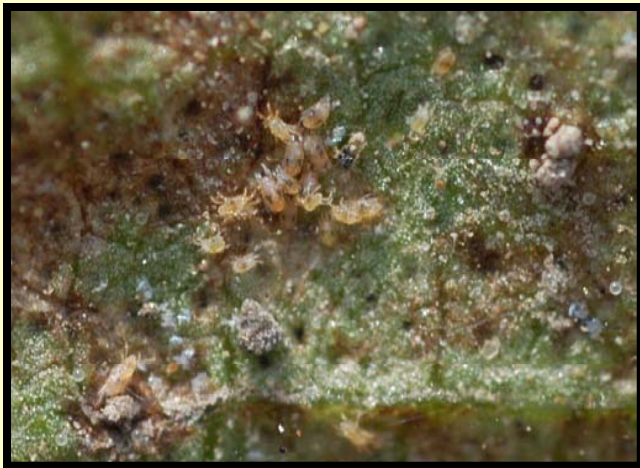
Proper application with thorough coverage is critical

Spider mite control *appears to vary with product and time of season*





Late-Season Yield Loss





Zephyr[®] 0.15EC

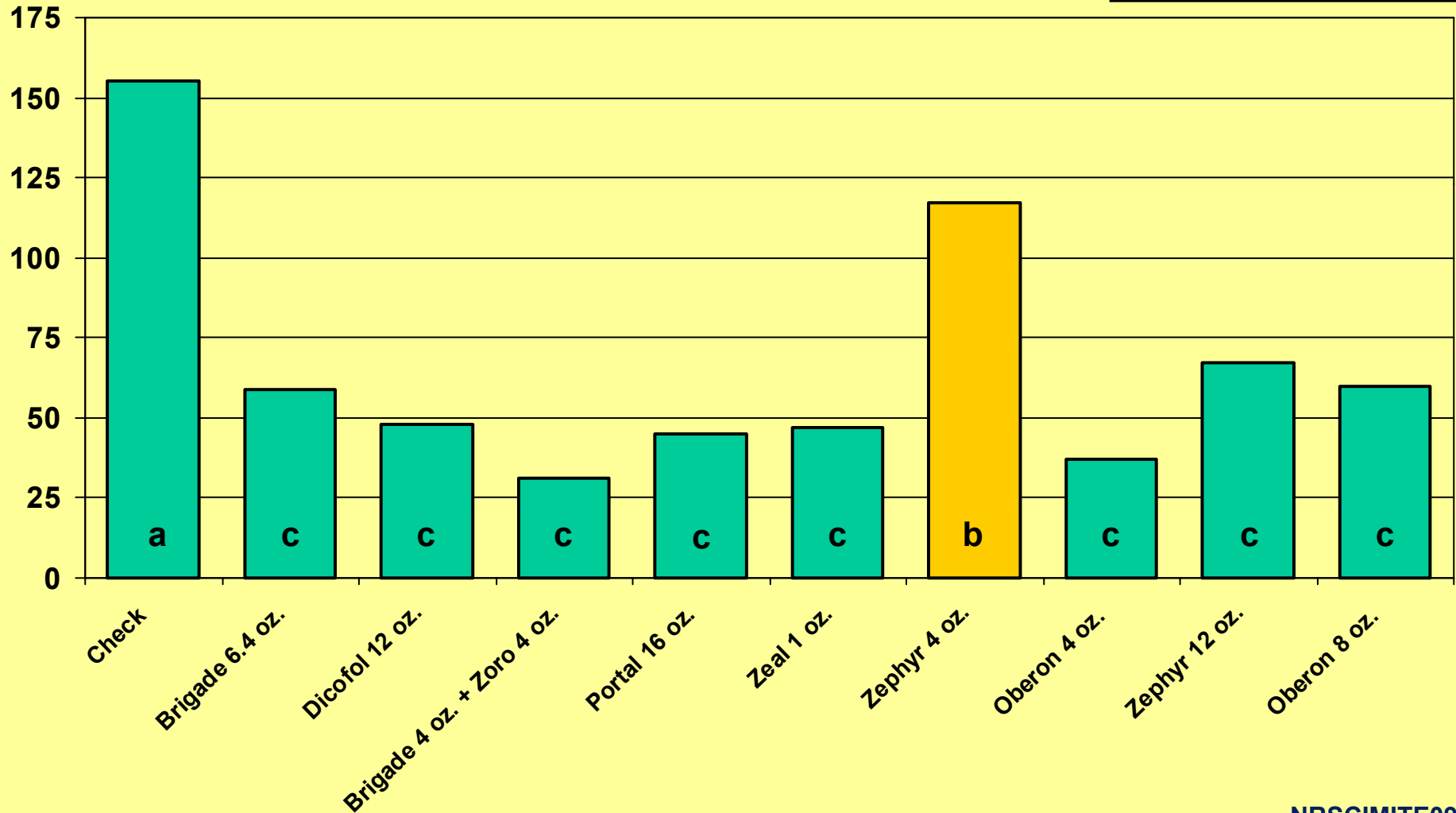
Miticide/Insecticide

Pest	Fl. oz./A	Instructions
Carmine spider mite	4-6 (Early Season Cotton- See Instructions)	Apply when mites first appear. The use rate depends on the size of the plant and density of the foliage. Repeat application if needed to maintain control. See Use Restrictions below.
Pacific spider mite		
Strawberry spider mite	8-16	The lower use rates of 4-6 fl. oz./A are only recommended if cotton is early season and under 10 inches in height. Do not use less than 4 fl. oz./A. West of the Rocky Mountains - the lower use rates may only be used on cotton less than 10 inches in height and applied only with ground equipment.
Twospotted spider mite		Note: Zephyr 0.15 EC may be used without a wetting agent. Spreading and penetrating surfactants can improve mite control. When necessary to improve the wetting of foliage and to smooth out spray deposits, a nonionic surfactant is recommended. Do not use binder or sticker-type surfactants.



Spider Mite Efficacy Trial

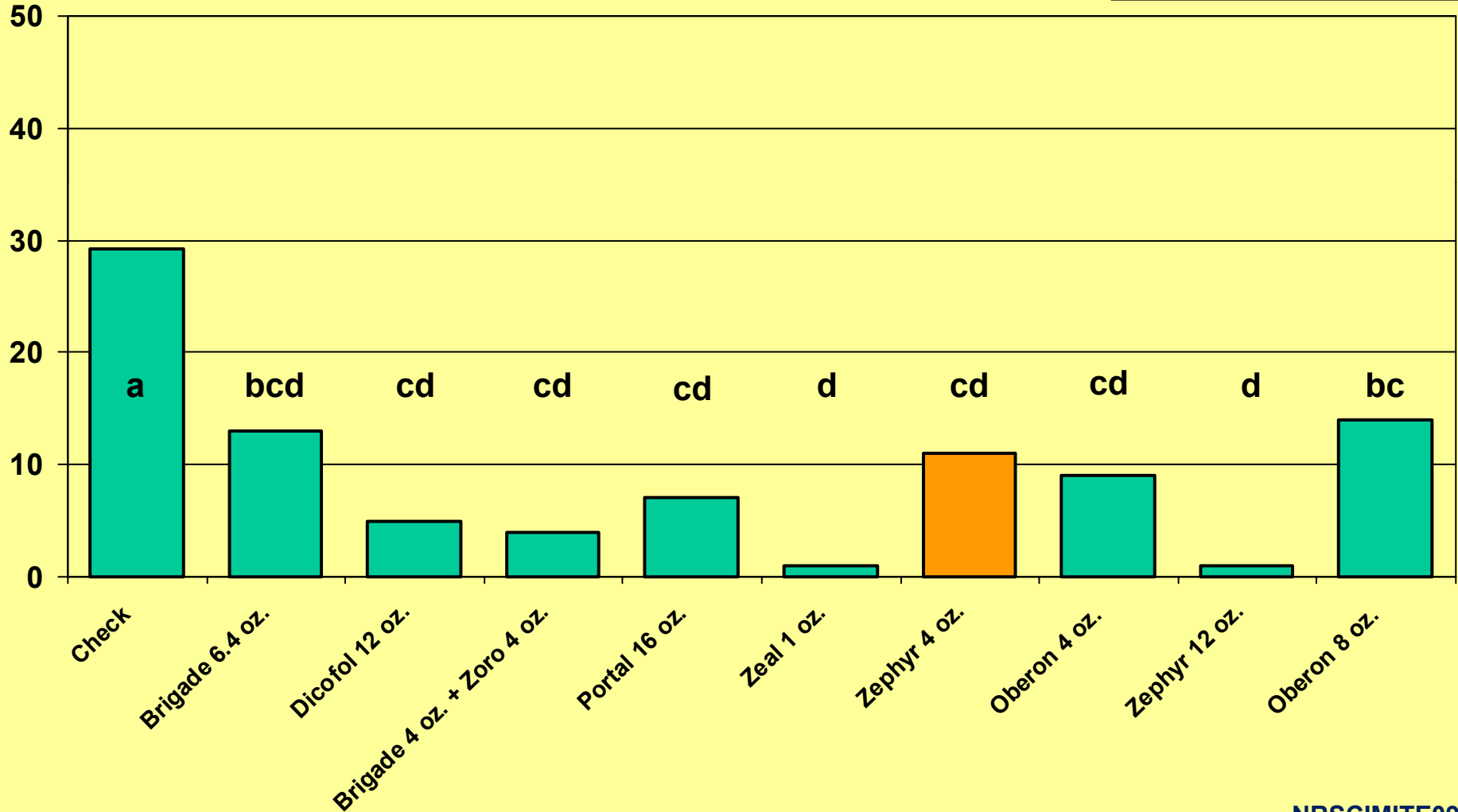
St. Joseph, LA (3 DAT) ($P < 0.01$)
Number/10 sq. in. (July - 2009)



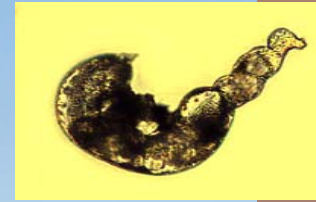


Spider Mite Efficacy Trial


St. Joseph, LA (8 DAT) ($P < 0.01$)
Number/10 sq. in. (July - 2009)







RESTRICTED USE PESTICIDE
ACUTE TOXICITY AND GROUND WATER CONTAMINATION
For retail sale to and use only by Certified Applicators or persons under the direct supervision of a Certified Applicator, and only for those uses covered by the Certified Applicator's certification.


Temik brand **15 G**
ALDICARB PESTICIDE

Net Weight:
1 x 45 lbs.

For Control of Certain Insects,
Mites, and Nematodes.



Wild Hosts / Overwintering

- Active on henbit during December
- Overwintering in fields
- May explain hot spots often scattered in fields of seedling cotton



Determination of Yield Loss From Spider Mite Infestations

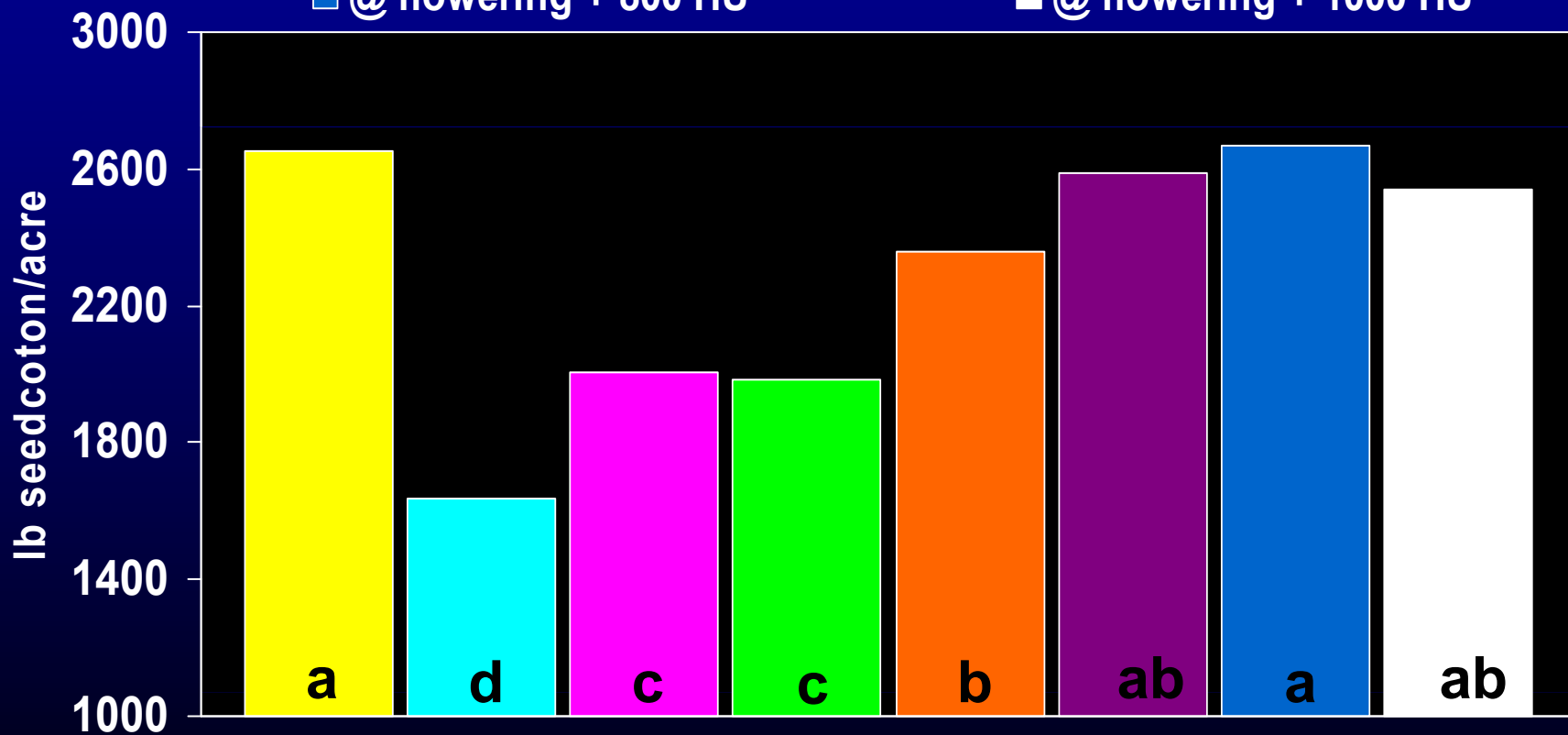
Target Treatments (Infestation Periods)

1. Pre-Flowering (3 LF)
2. Flowering
3. Flowering + 200 HU
4. Flowering + 400 HU
5. Flowering + 600 HU
6. Flowering + 800 HU
7. Flowering + 1000 HU
8. Non-Infested



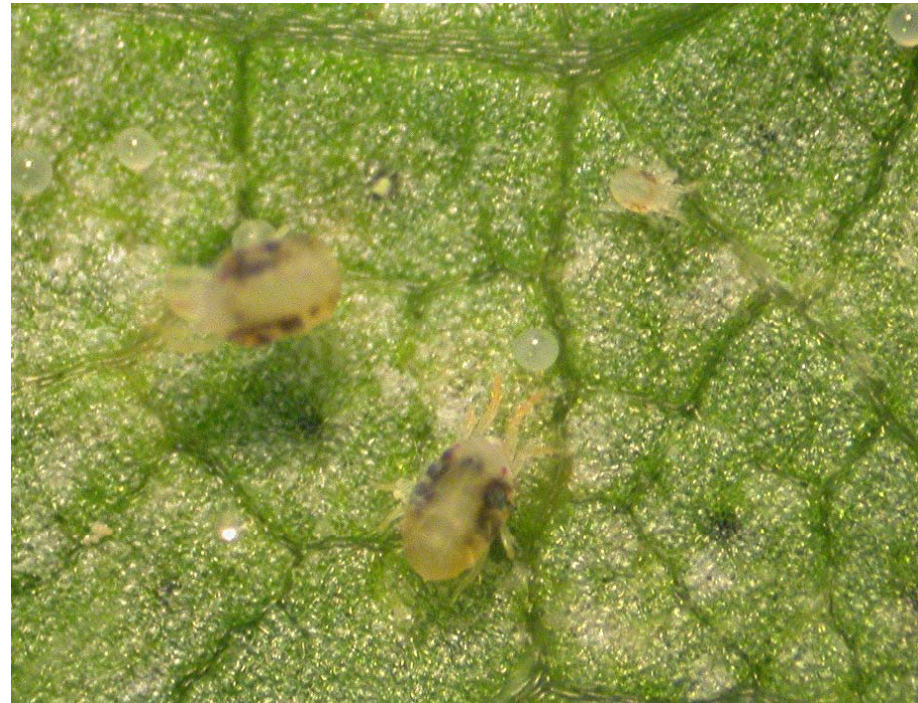
Evaluation of Mite Infestations, 2009

- Non-infested
- @ flowering
- @ flowering + 400 HU
- @ flowering + 800 HU
- @ 3 leaf
- @ flowering + 200 HU
- @ flowering + 600 HU
- @ flowering + 1000 HU



$P < 0.01$

Standardized Evaluation of Miticides in the Midsouth



Gore, Smith, **Stewart**, Catchot, et al.

Team Members

Mississippi

Gore / Cook

Catchot / Smith

Daves

Arkansas

Akin

Lorenz

Studebaker

Missouri

Tindall

Louisiana

Leonard

Tennessee

Stewart



Part of a regional effort to better understand spider mites and effects on yield

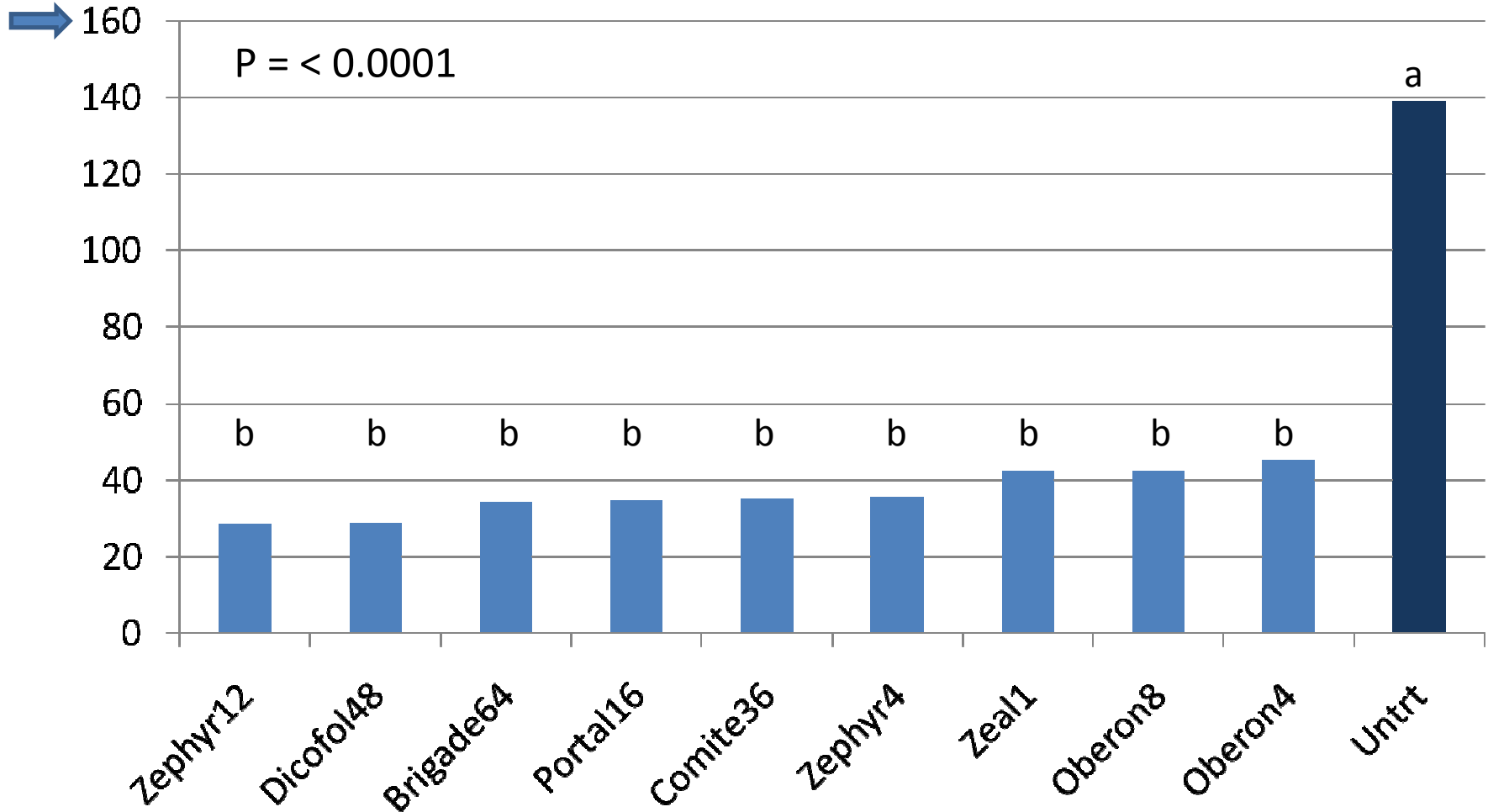
Trial Treatments

Treatment	Rate (oz/acre)
Brigade 2E	6.4
Dicofol 4E	48
Comite II	36
Portal 0.4E	16
Zeal 72WSP	1
Zephyr 0.15E	4
Oberon 4F	4
Zephyr 0.15 E	12
Oberon 4F	8
Untreated	---

Spider Mites 3-5 DAT

Five Locations: Gore/Cook, Leonard, Akin, Lorenz, Stewart

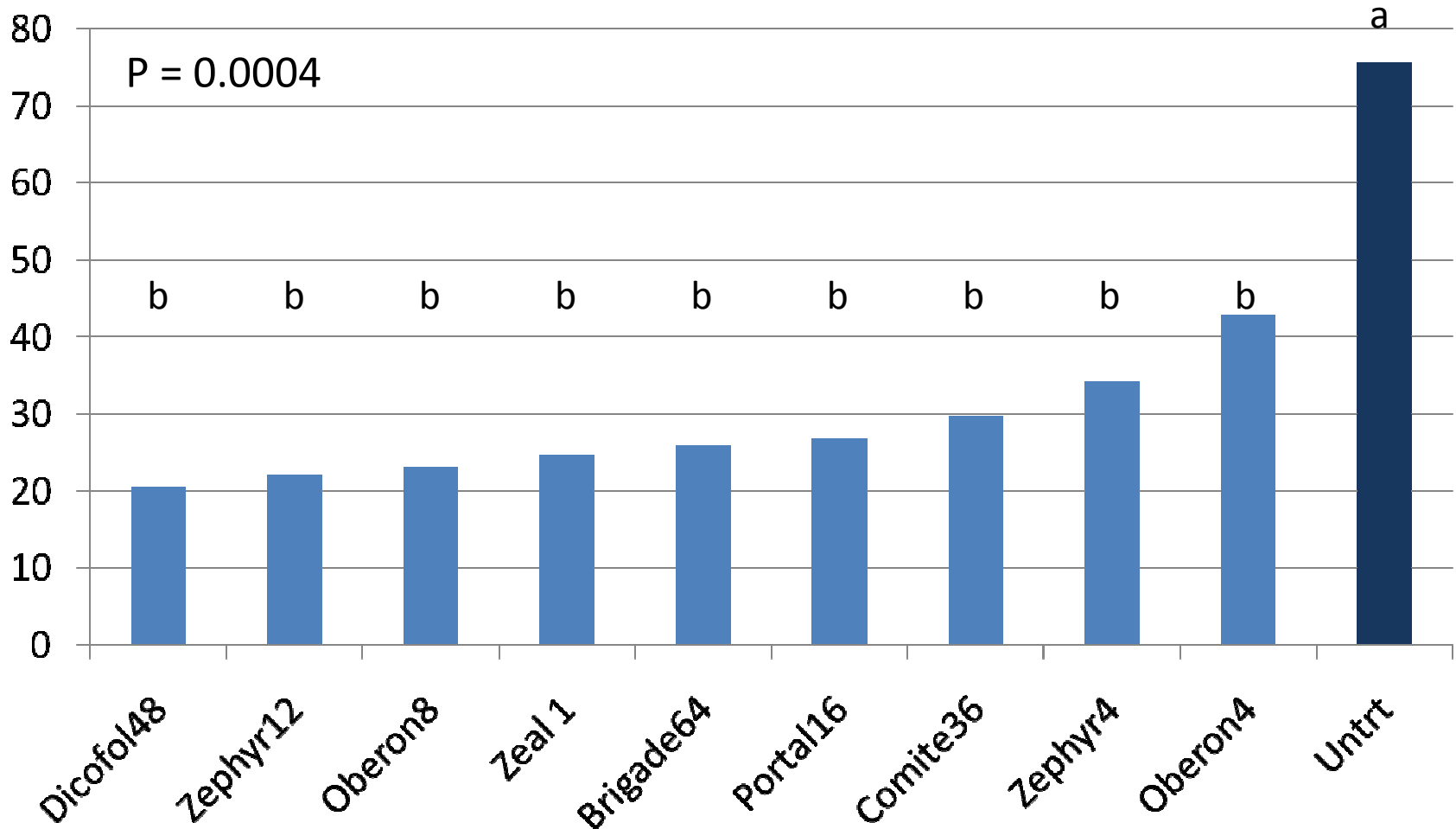
Numbers per 10 Square Inches



Spider Mites 10-14 DAT

Two Locations: Gore/Cook, Stewart

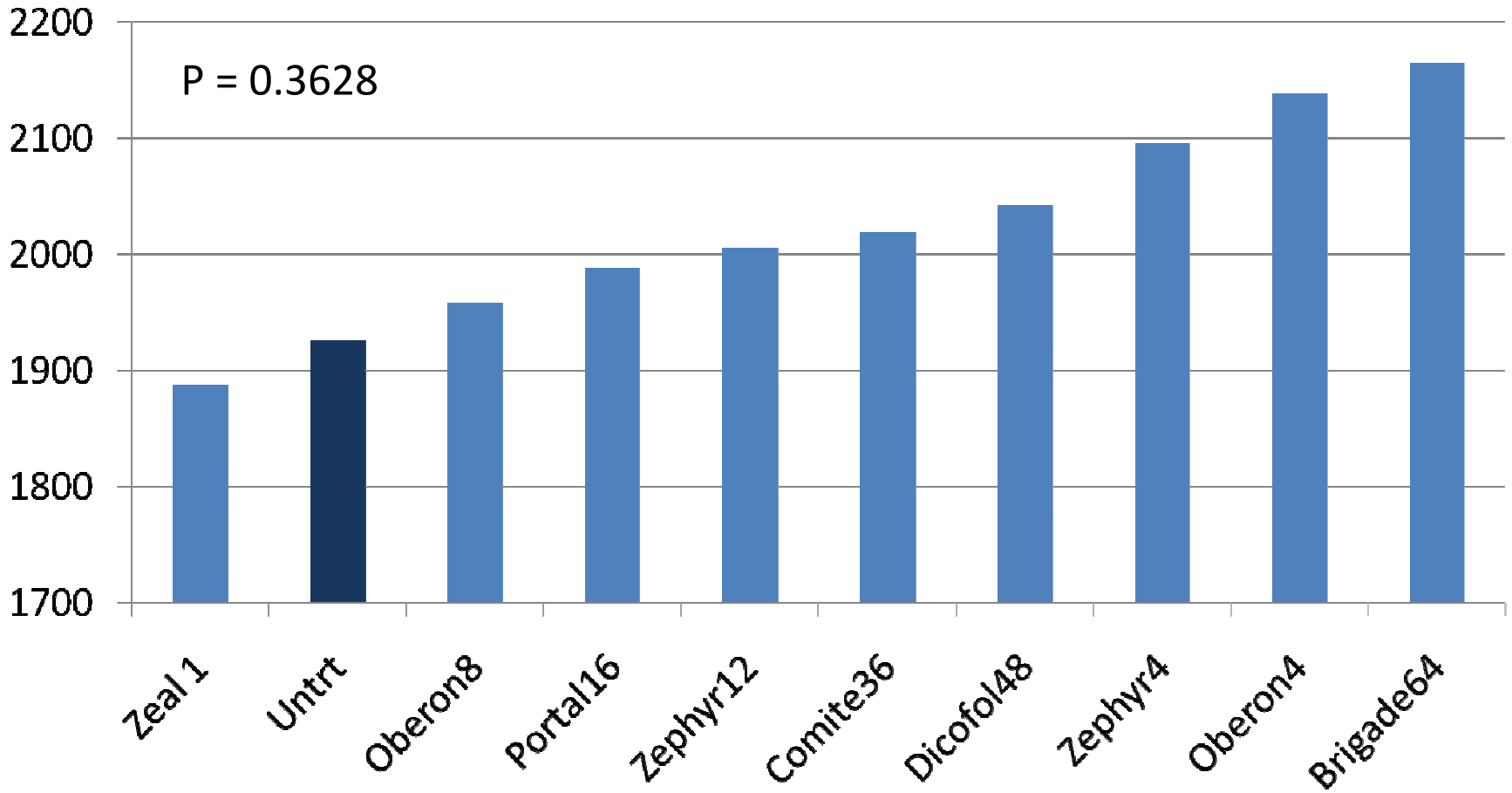
Numbers per 10 Square Inches



Yield

Three Locations: Gore/Cook, Leonard, Stewart

Seed Cotton Yield per Acre



Summary

- **All treatments significantly reduce spider mite populations**
 - Maximum control of most treatments was generally observed at 7-9 DAT but ...
- **Yield was not significantly affected by treatment**
 - Mite populations were moderate at best and crashed during several tests
 - Environment plays large role in yield effects
- **A tough year and a rough start**
 - We need more observations

Thanks to Pat O'Leary and Cotton Incorporated



Ignite® 280 SL HERBICIDE

A non-selective herbicide for post emergence broadcast use on canola, corn, cotton, and soybean designated as LibertyLink®. Ignite 280 SL Herbicide may be used for weed control in non- LibertyLink® cotton when applied with a hooded sprayer in-crop. Ignite 280 SL Herbicide may also be applied as a broadcast burndown application before planting or prior to emergence of any conventional or transgenic variety of canola, corn, cotton, soybean or sugar beet.

ACTIVE INGREDIENT: Glufosinate-ammonium* 24.5%**

OTHER INGREDIENTS:..... 75.5%

*CAS Number 77182-82-2

**Equivalent to 2.34 pounds of active ingredient per U.S. gallon.

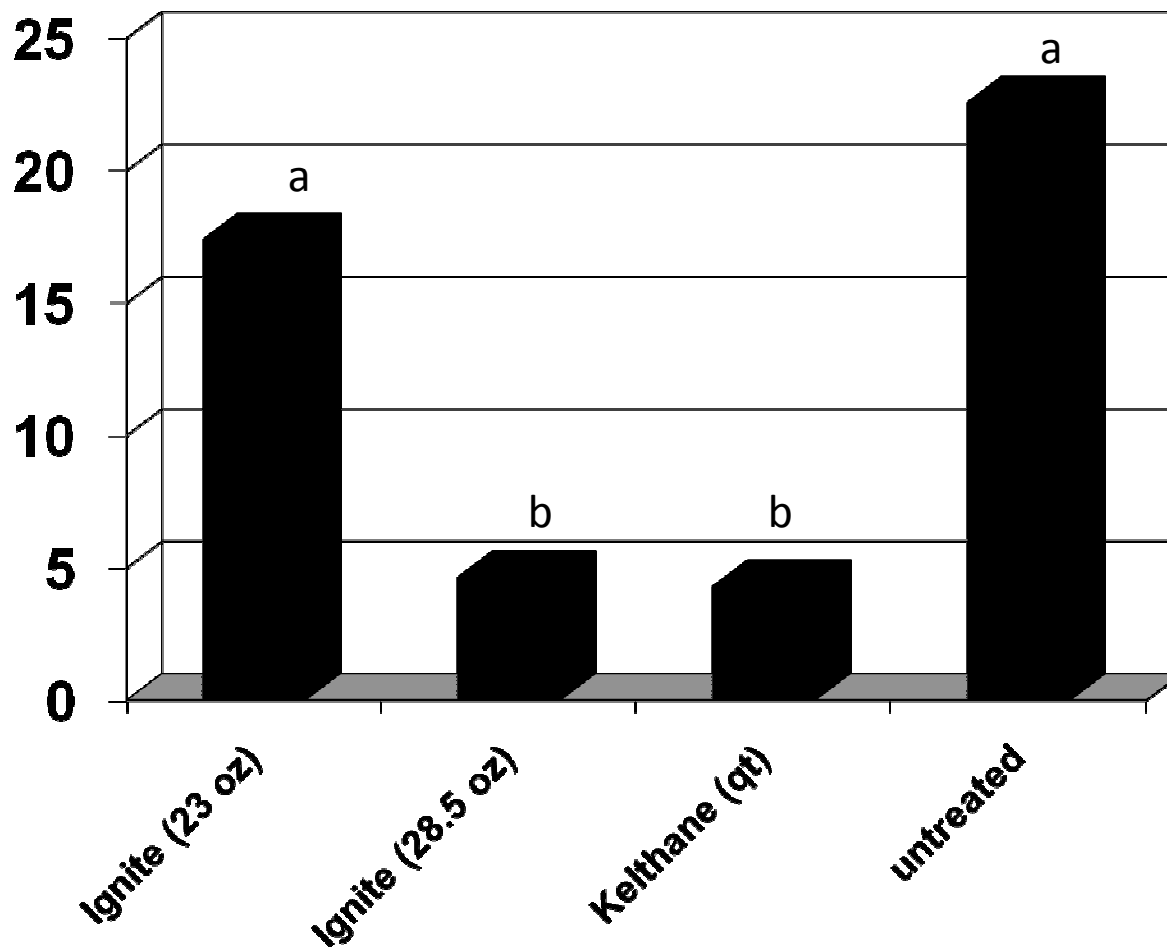
TOTAL 100.00%

Control of Field Populations of Spider Mite

Starkville, MS - Mites/leaf (2DAT)

infested-10/1, treated-10/8/2007

In-Field Experiment



Efficacy Against Spider Mite

Percent Mortality - 24 HAT

Laboratory Experiment

Mites Transferred to Dried Residue

