

# **Glyphosate-Resistant Palmer Amaranth Status in Tennessee**

**University of Tennessee**

**Larry Steckel**



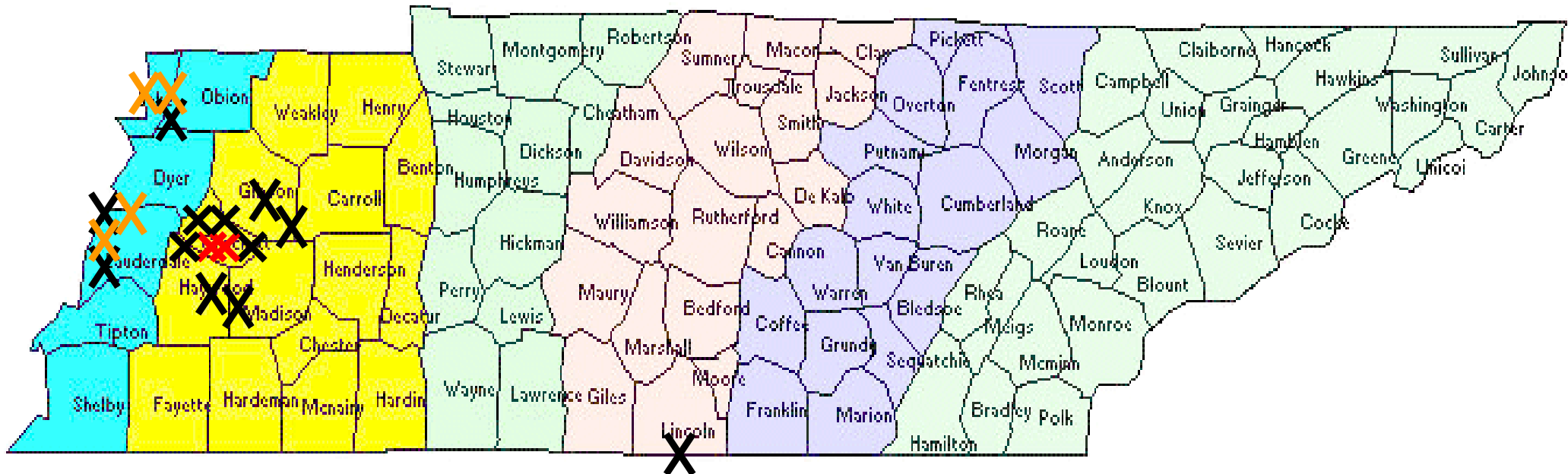
# Pigweed Status

- There are 4 fields in three counties with confirmed glyphosate-resistant Palmer pigweed.
  - ❖ 1.5 to 5x reduced sensitivity to glyphosate.
  - ❖ Steckel et al. 2008. Palmer amaranth (*Amaranthus palmeri* S. Wats) in Tennessee has low level glyphosate resistance. *Weed Technol. (In Press)*
  - ❖ Placed on Ian Heap site.
- There is 1 field where we are investigating possible GR waterhemp.
  - ❖ Field testing showed possible resistance.
  - ❖ Greenhouse screen ongoing.

# Palmer Pigweed Glyphosate Screen

2006-2007

- X 2-5 x Less sensitive to glyphosate
- X 1.5-3 x Less sensitive to glyphosate
- X susceptible





22 fb 22 ozs/A Roundup WM





# 22 fb 22 ozs/A Roundup WM





# 22 fb 22 ozs/A Roundup WM





# 108 ozs/A Roundup WM





# Waterhemp-108 ozs/A Roundup WM





# 108 ozs/A Roundup WM





# Palmer Identification



**Palmer**



**Waterhemp**

**Palmer will have petioles longer than the leaf while Waterhemp will have petioles the same size to shorter than the leaf**



# Waterhemp and Palmer

Waterhemp



Palmer



# Pigweed ID



Palmer

Smooth

Redroot

Green



# Waterhemp and Palmer

Waterhemp

Palmer





**40 (2'') + 88 (6'') + 88 (18'') oz/A Roundup WM**





**40 oz RWM fb disk fb 22 oz/RWM 1<sup>st</sup>/4<sup>th</sup> nodes fb 29 oz Ignite**







**22 oz/RWM 1<sup>st</sup>/4<sup>th</sup> nodes fb Ignite hooded**

**22 oz/RWM 1<sup>st</sup>/4<sup>th</sup> nodes fb 0.15 oz Envoke fb 29 oz Ignite hooded**





# GR Weed Summary

- GR horseweed a problem in all cotton and 90% of the soybean acres.
  - ❖ Starting to become evident in corn as well.
- GR Palmer pigweed is probably an issue in about a dozen fields in 3 counties.
  - ❖ The switch to corn acres has hidden this problem in these fields.
- Waterhemp is being screened.
- Giant ragweed (glyphosate-tolerant/resistant) is a serious problem in a number of fields in 4 counties.
  - ❖ This was my #1 “new” call in 2007.