

# 2018 Conservation Tillage Weed Management



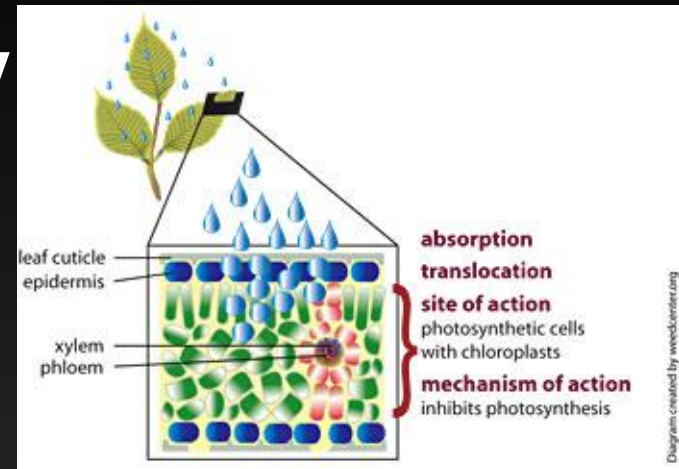
Stanley Culpepper  
UGA Extension  
Tifton, GA

# Reality of Weed Control

1. Last new herbicide chemistry over 30 years ago.

2. New chemistry – not likely.

3. Don't get confused, may have new “tools” but not new chemistry.



## Auxin Systems



# Reality of Weed Control

1. EPA - resistance mgmt plan.
2. More policy/politics expected.
3. More resistance is guaranteed!
4. Loss of very effective herbicides are occurring each year especially in Palmer amaranth and ryegrass.



# Palmer–Resistant Classes of Chemistry

---

**ALS inhibitors** – Staple, Cadre

**EPSPS** - Roundup

**PSII** – Atrazine

**DNA** – Treflan

**HPPD** – Laudis

**PPO** – Reflex, Valor





# Level and Stability of Biomass is Important



7000 lb/A



3000 lb/A



2000 lb/A

dry weight



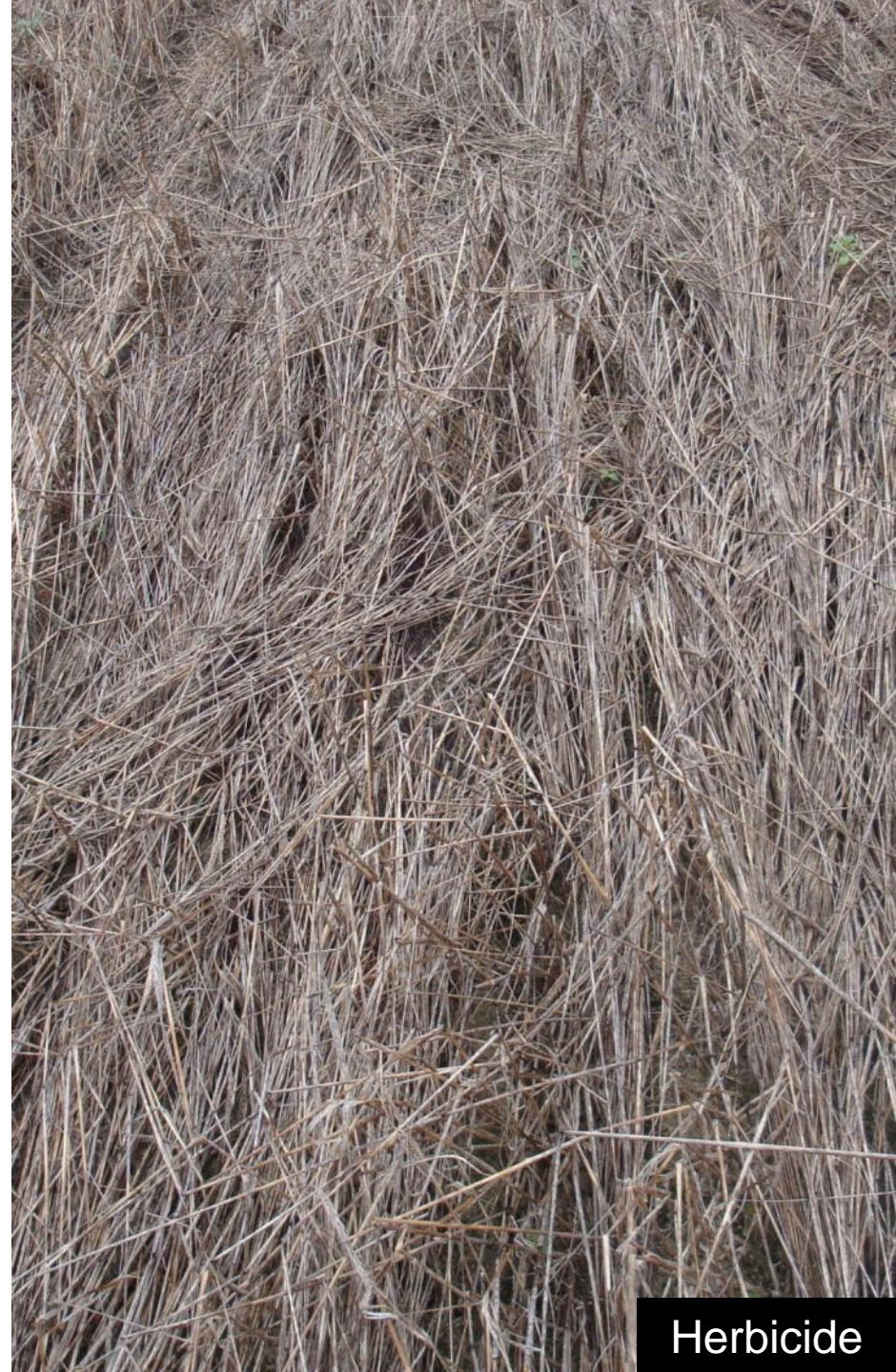
# Palmer Will Exploit Any “Holes” in the Rye







No herbicide



Herbicide



**After Cover is Terminated and it Rains; Planting will be Ideal for a Significant Amount of Time**





# Many Cover Crop Options – Termination Tactics Differ.





# Cover Crop Termination – Grains

---

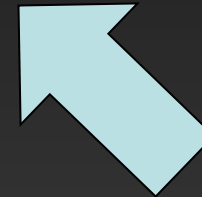
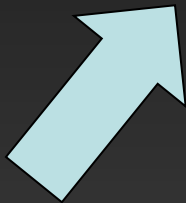
Rye, oats, wheat, triticale, black oats

**ROUNDUP**  
**Gramoxone**

**Stage of  
Growth**

**Temp  
(nighttime)**

**Rate/Tank  
Mixtures**





# Cover Crop Termination –Grains

---

## Stage of Growth

Jointing through boot often more difficult but varies by crop planted

## Temp (nighttime)

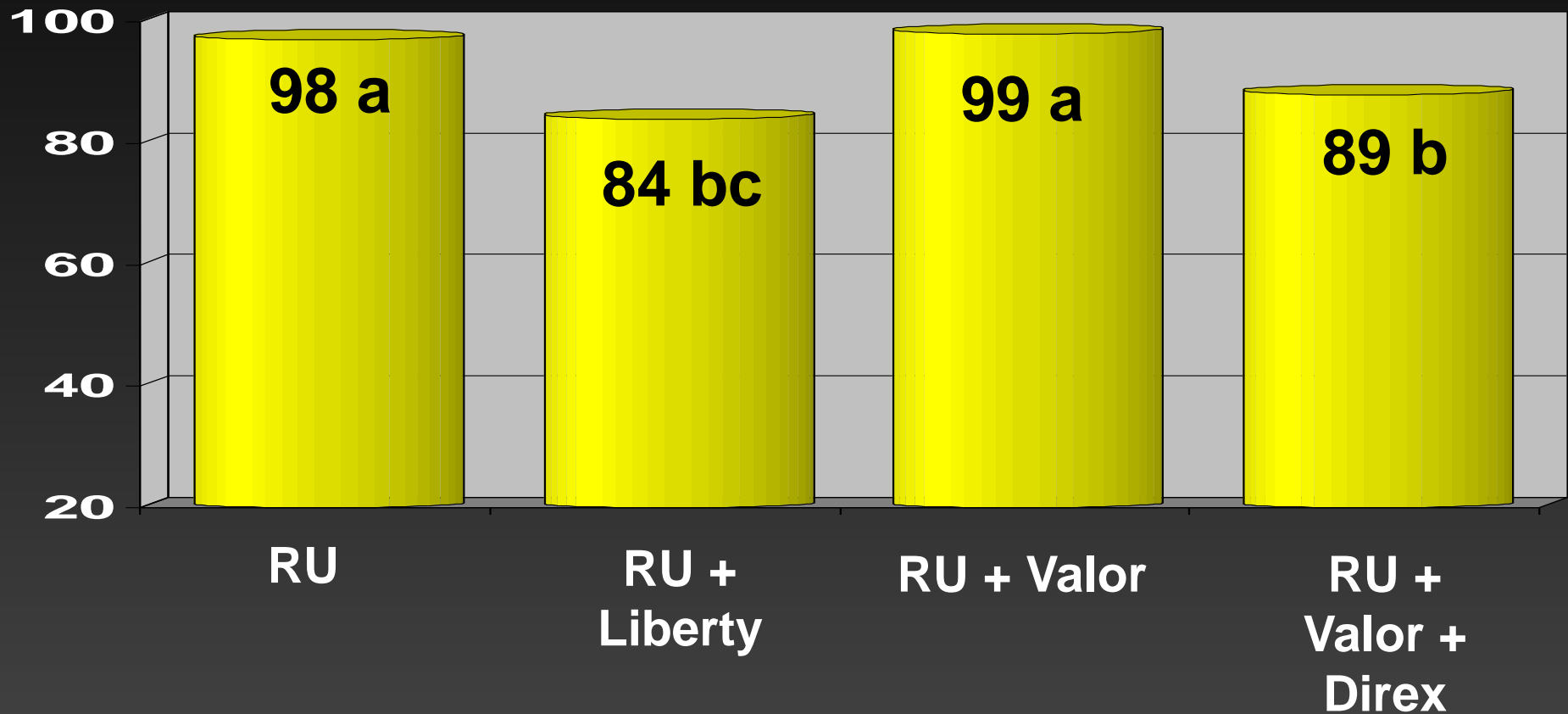
Varies by crop – metabolic processes in plant slow making Roundup slower and often less effective

## Rate/Tank Mixtures

Antagonism from tank mixtures is common, rate can often be used to overcome issues or sequential applic



# Wheat Response to Roundup Mixes Just Prior to Boot Stage of Growth. Mar 2018.



RU PMAX 32 OZ/A; Liberty 32 oz/A; Valor 2 oz/A, Direx 1 pt/A

# Cover Crop Termination –Clover

---

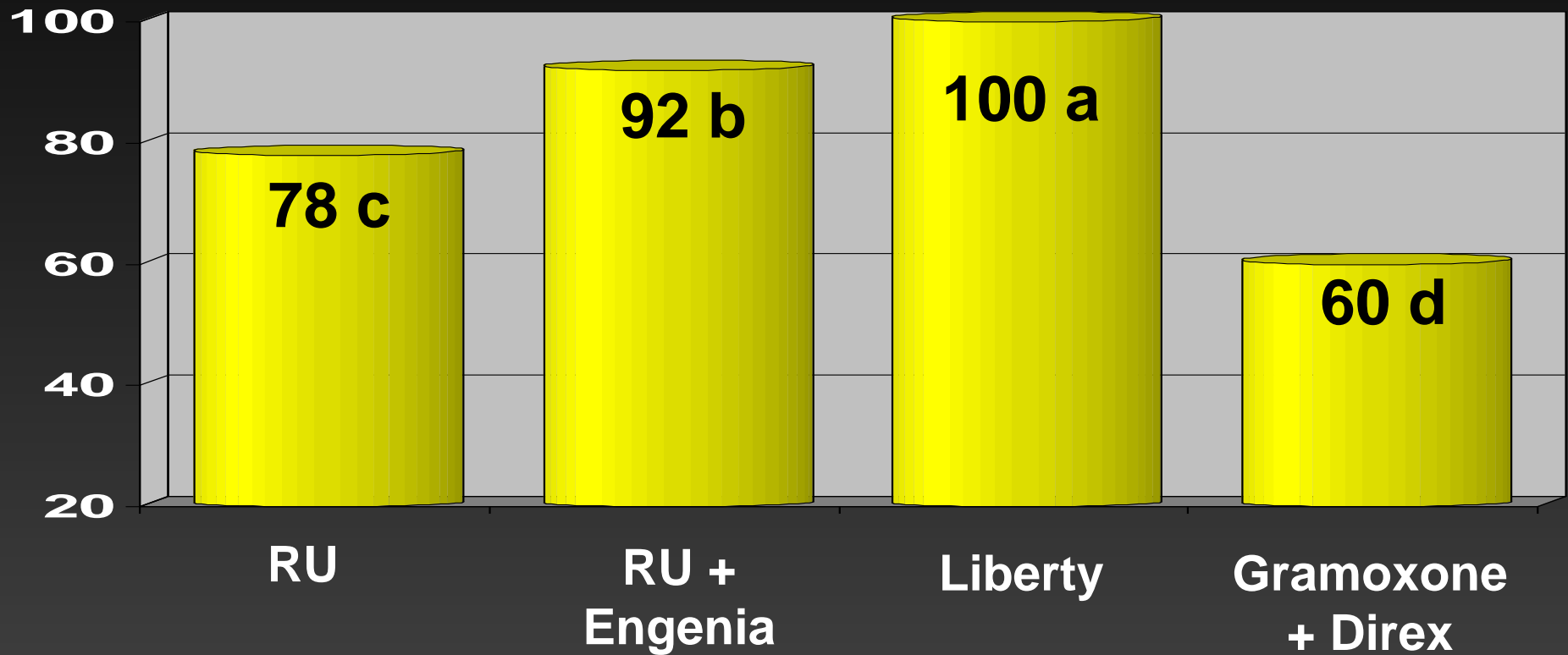
**Difficult to control?**

**Maturity influences response: Prebloom  
vs PostBloom?**





# Controlling Clover with Burndown Herbicides. Mar 2018.



RU PMAX 32 OZ/A; Liberty 32 oz/A; Valor 2 oz/A, Direx 1 qt/A; Gramoxone 1 qt/A;  
Engenia 9.5 oz/A.

# Cover Crop Termination – Vetch

---

**Roundup + dicamba or Roundup + 2,4-D**

**After Seed Set:**

**Gramoxone + diuron (cotton)**





# Tillage Radish...scary to the weed guy

---



- 1) Resistance.
- 2) Allelochemical effect???
- 3) Mixtures with 2,4-D or dicamba  
should be effective



# Ryegrass-Resistant Classes of Chemistry

---

**Accase inhibitors** – Poast, Select, Axial, etc

**ALS inhibitors** – PowerFlex, Osprey, Beyond

**EPSPS** - Roundup

**Long Chain Fatty** – Dual/Warrants

**Glufosinate amm.** - Liberty

**PS I** – Electron - Gramoxone



# Managing Ryegrass

- If applying same chemistry 3 years in a row, resistant plants will likely be observed by 3 years.
- Roundup better than Gramoxone (unless plant fully mature).
- Best herbicide approach is to apply Roundup and follow with Gramoxone 5-7 days later.





# Burndown: 2,4-D vs Dicamba When Mixed with Roundup

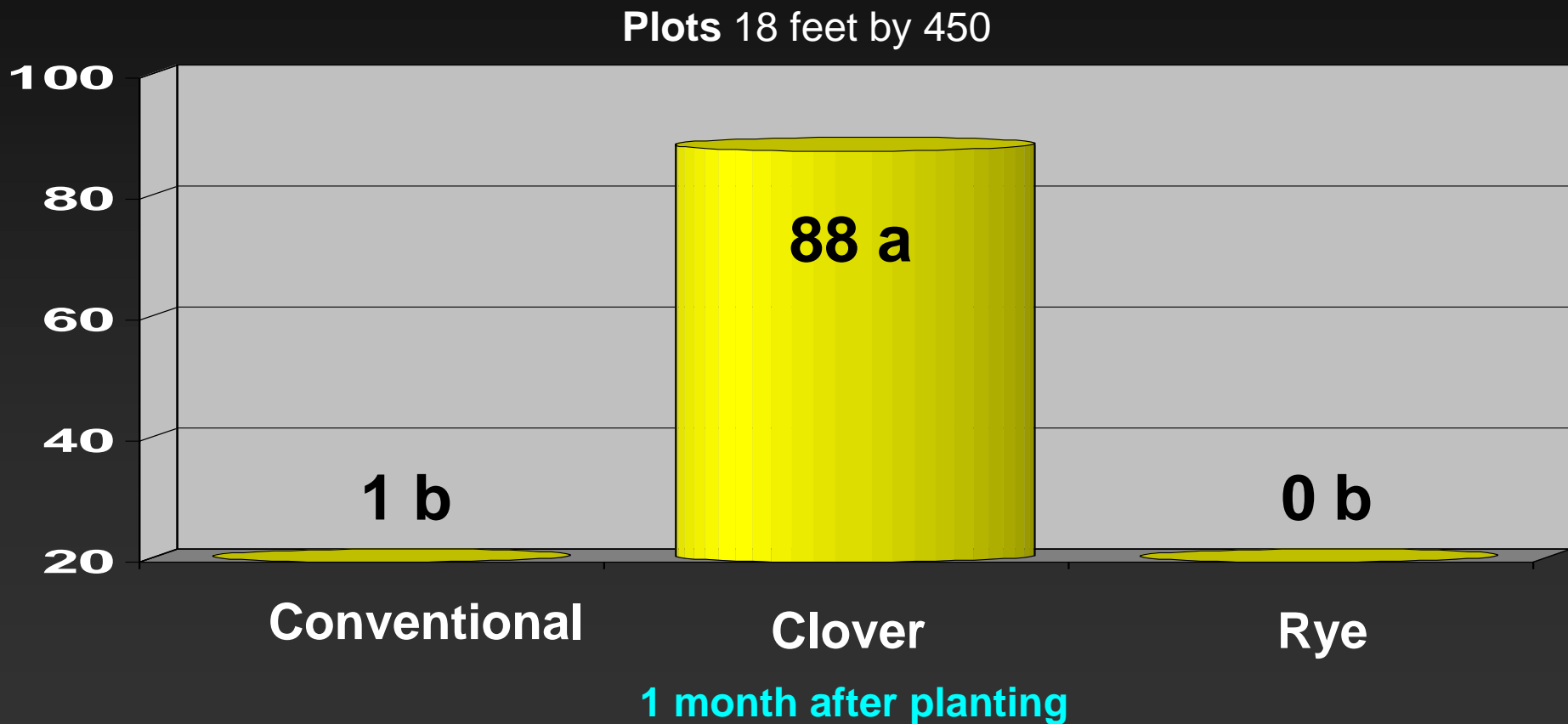
	2,4-D	dicamba
Horseweed	+	++
Primrose	++	+
Radish	++	+
Cost	++	+
Plantback	+ 2,4-D	+ dicamba







# Gaps >1 Foot As Influenced by Production Practice. 2016 Expo.



Conventional = rip/bed no cover; Clover 12 lb/A = 7700 lb dry biomass; Rye 90 lb/A = 9970. Study maintained weed free with timely herbicide program

# Methods For Rye Process



25 extra units of N in rye program













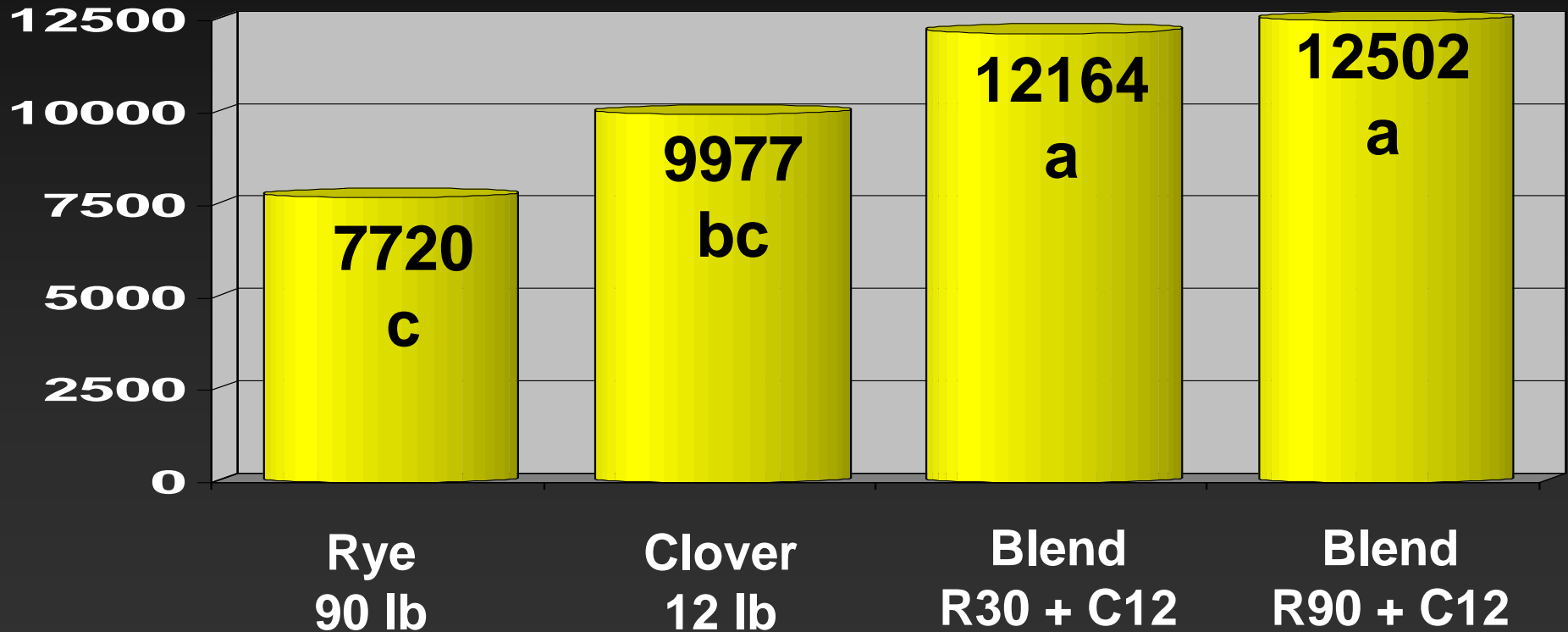






# Dry Biomass LB/A AT Planting. 2016 Expo.

Plots 18 feet by 450



Study maintained weed free with timely herbicide program.



THE UNIVERSITY OF GEORGIA  
**COOPERATIVE  
EXTENSION**

Stanley Culpepper  
UGA Extension  
Tifton, GA