

# **Looking Back, Looking Ahead: Cotton Varieties and Fiber Quality**

## **Selecting Cotton Varieties for 2003**

**Steve Brown  
and  
Philip Jost**

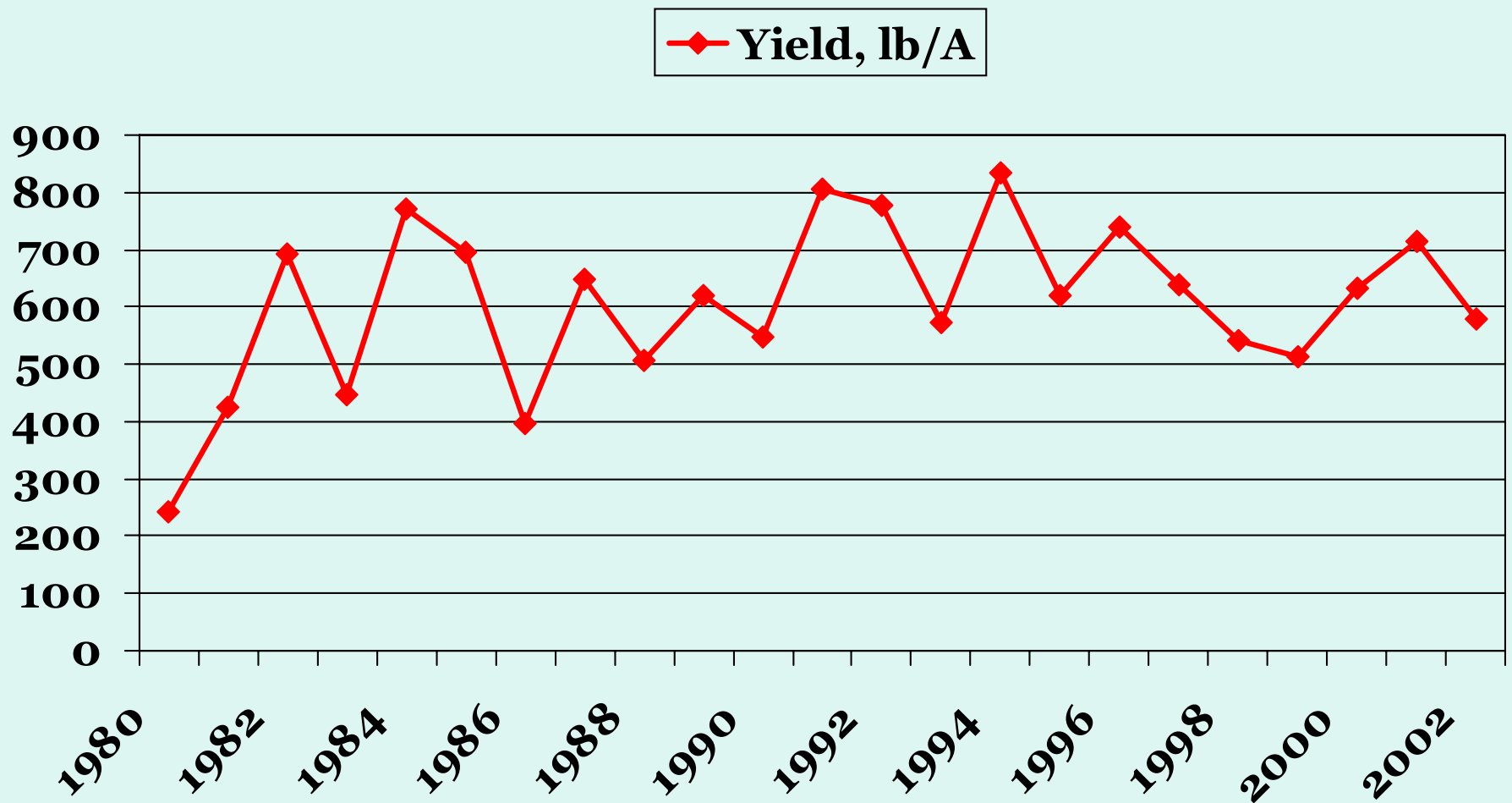




# Georgia Cotton Production Since 1980

Time period	Acres (1,000)	Yield (lb/A)	Bales (1,000)
1980-84	162	516	175
1985-89	269	573	321
1990-94	549	707	828
1995-99	1,426	610	1,810
2000	1,495	502	1,563
2001	1,483	709	2,200
2002	1,440	580	1,565

# Average Cotton Yields Since 1980



**DROUGHT**









# 2002 Fiber Quality

## USDA Macon Classing Office

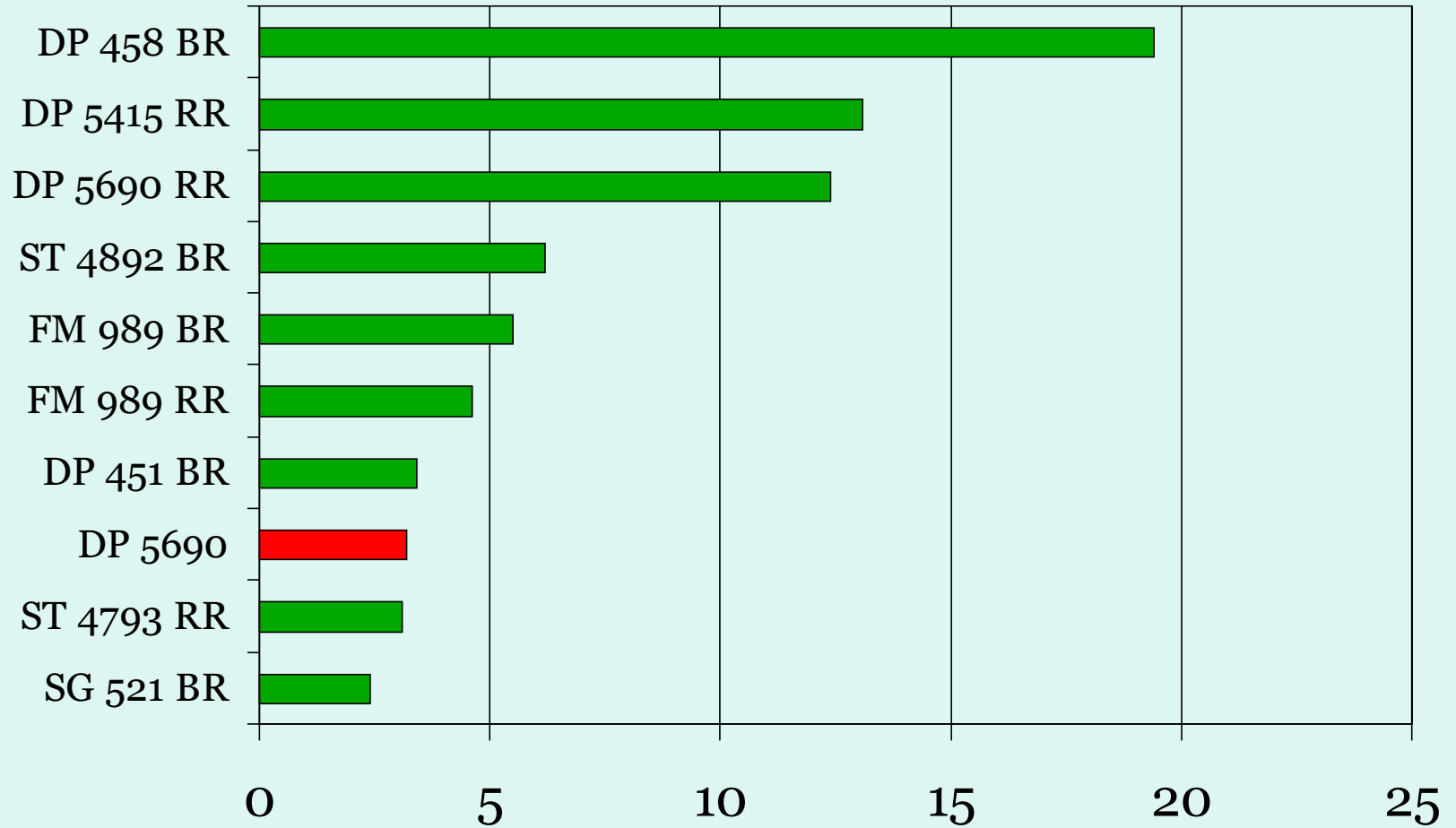
<b>Color grade 41 or better, % of crop</b>	<b>Bark / grass, % of crop</b>	<b>Staple, 32nds</b>	<b>Leaf grade</b>	<b>Strength, g/tex</b>	<b>Mic</b>	<b>Uniform ratio</b>
52	2 / <1	34.0	3.6	27.5	4.90	81.0

Based on 1,565,532 bales as of Jan 23, 2003

**\*32% short staple, 49% high mic**

# Top 10 Cotton Varieties in Georgia, 2002

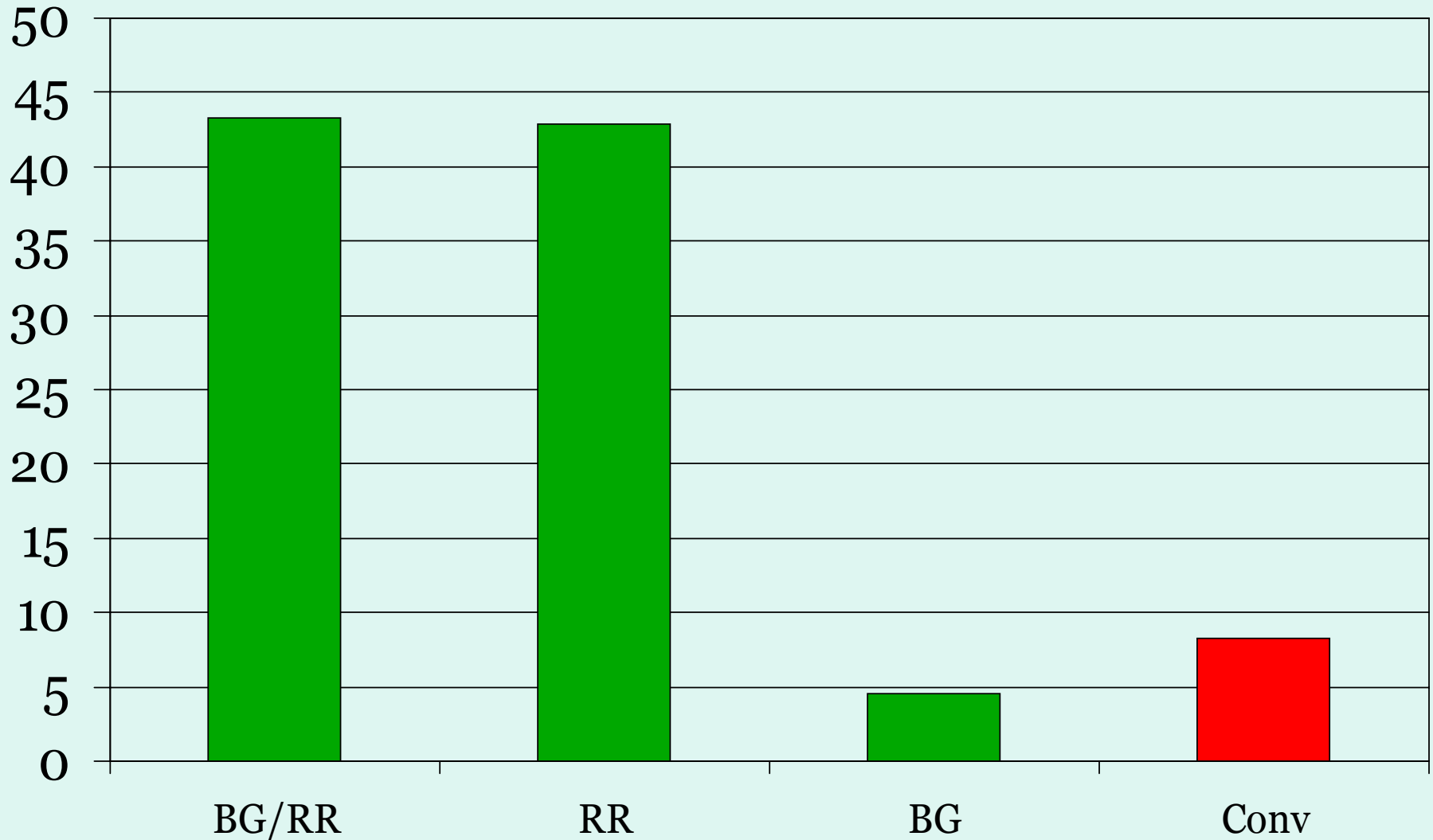
USDA AMS Survey



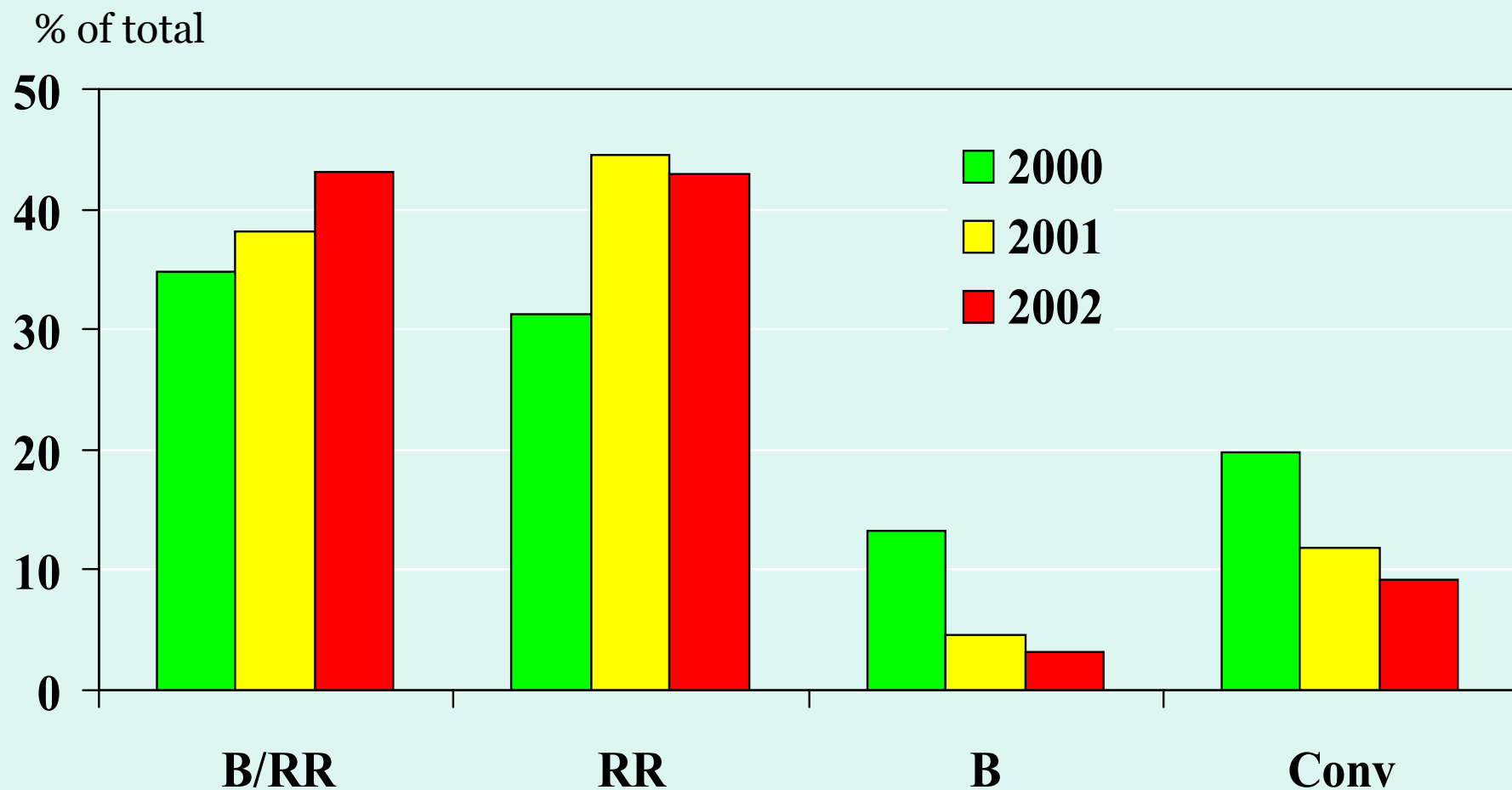


# Technology Distribution of Cotton Varieties in Georgia, 2002

USDA AMS Survey



# Technology Distribution of Cotton Varieties in Georgia 2000-02





# UGA Variety Trials

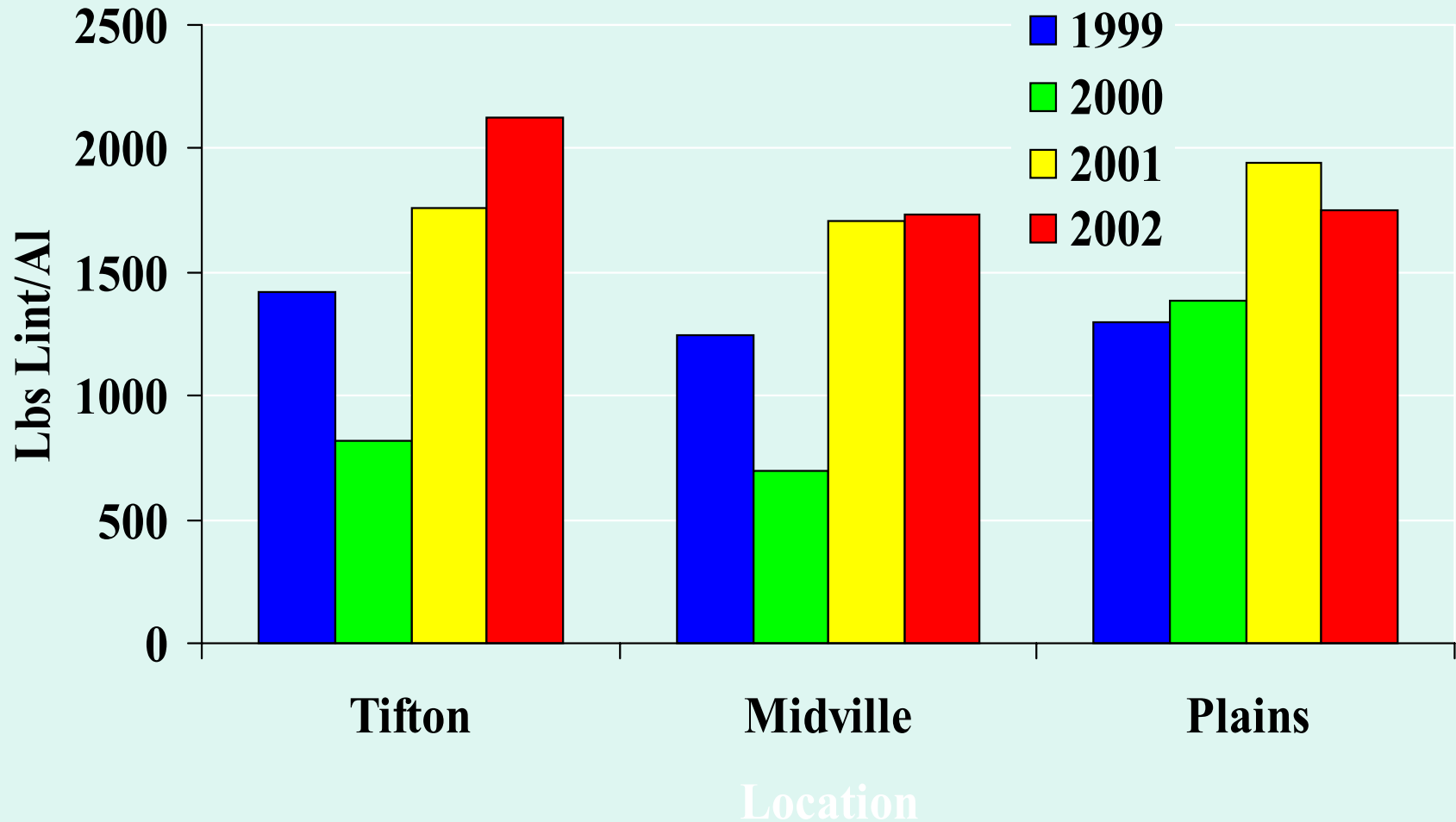
- Sites-Athens, Bainbridge, Midville, Plains, Tifton
- Tests-early or mid-full; irrigated or dryland (3 sites); variety or strains
- Entry fee \$400/variety, company picks maturity
- Plot size 2 rows by 40 ft, 4 reps (1 row@ Athens)
- Planted, thinned to desired population 3-4 /ft
- Managed uniformly for high yield, Pix as needed
- Preharvest, hand sample for fiber analysis
- Seed cotton processed on small gin





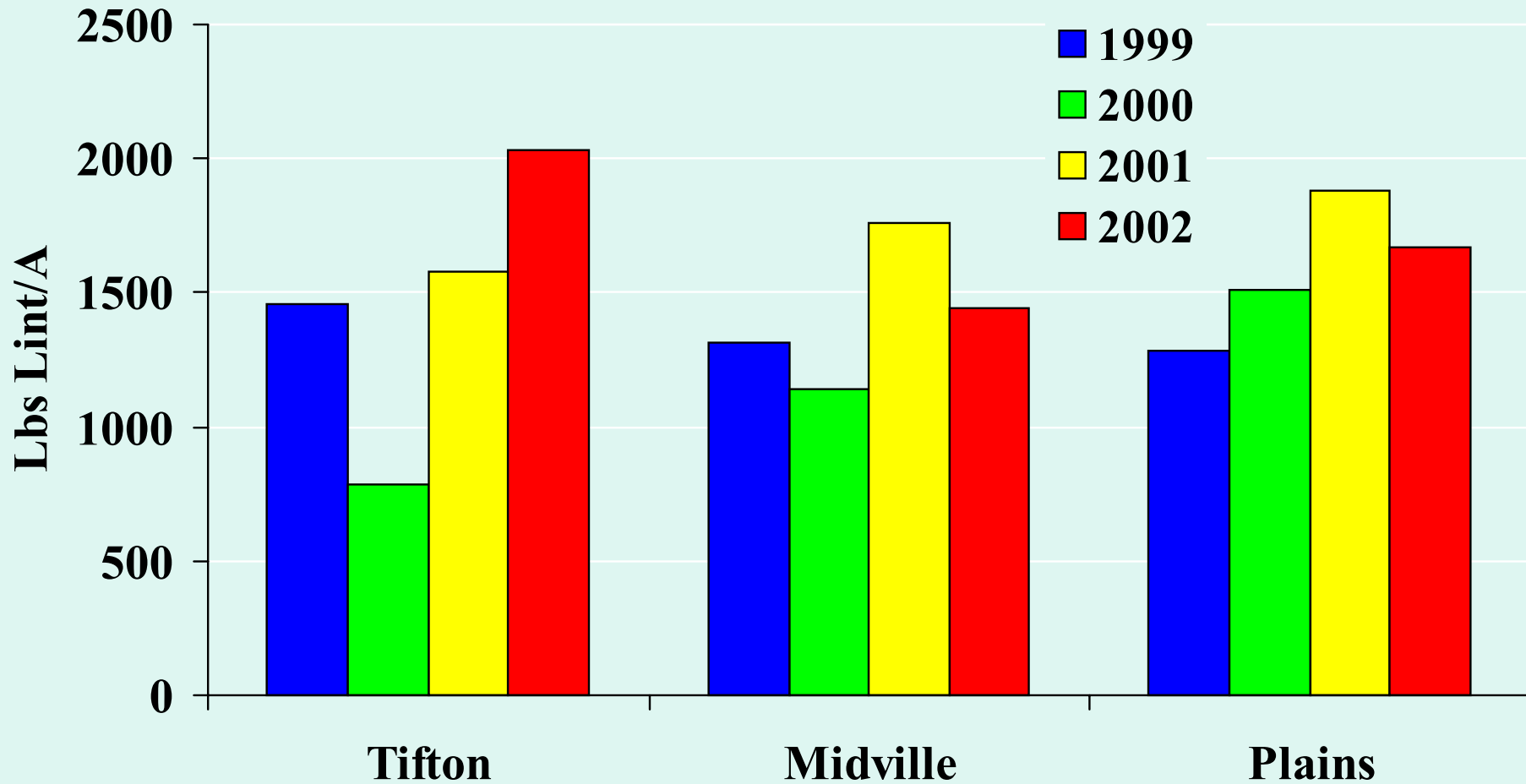
# Early Maturity OVTs

## 1999-2002 Max Yields



# Late Maturity OVTs

## 1999-2002 Max Yields





# UGA Variety Trial Data available on UGA Cotton Web page

[www.griffin.peachnet.edu/caes/cotton](http://www.griffin.peachnet.edu/caes/cotton)

page managed by Dr. Phil Jost

# Variety Opportunities for the Future

## NEEDED

- Improved fiber quality in BR, RR, B cultivars
- High yield, reasonable quality RR cultivar?

## HERE

- New wave of BR cultivars—competition?
- Bollgard II

## COMING

- Nematode resistance?
- New technology—Liberty, new Bt, other?

# Variety Selection for 2003

- Study the data
- Temper data with local experience
- Spread risks by variety, maturity, date
- Don't over-buy technology
- Roundup Ready is a poor choice in high yield environments
- Purchase quality seed



# Fiber Quality

- Premier quality is currently not available in transgenic cottons in the South
- Superior quality consistently occurs in a few conventional varieties: FM 832, FM 966, DP 491, Delta Pearl, PSC GA 161
- Premiums are fleeting...penalty avoidance is the primary goal/target
- Severe environmental stress challenge any, all varieties

# Do's and Don'ts with RR Cotton

## Don't

- Plant in high yield situations
- Abuse with tardy over-top or sloppy post direct treatments

## Do

- Include dinitroaniline PPI or PRE
- Control weeds EARLY
- Consider/Use standard herbicides post direct and layby

# RR Varieties

While there are several RR varieties to choose from, none are outstanding in

- YIELD
- QUALITY



RR Varieties are

**MEDIOCRE**

– “of moderate to low quality”

The American Heritage Dictionary

# Old / New BR Transgenic Varieties

- Considerable experience with DP 458 BR, DP 451 BR, ST 4892 BR, etc.

“New” mid to full cultivars

- DP 555 B/RR
- FM 989 BR
- ST 5599 BR

# DP 555 B/RR

## STRENGTHS

- High yield (150+ lb/A)
- Reasonable quality
- True full season

## WEAKNESSES/ISSUES

- Small seed (~ 6,000/lb)
- Vigorous growth  
(aggressive Pix regime)  
(extra defoliation?)
- Not “storm proof”
- Cost \$120/bag vs \$70-75/bag



555 BGE

LOT# 782-E-1501-W

APPROX. SEED PER  
20285

**BASF**  
**Pix Plus**  
inert regulator

For use on cotton:  
Active Ingredients:  
Methidathion 90% 4.000%  
Diazinon 90% 26.750%  
Other Ingredients: 100.000%  
Total: 130.750%

Equivalent to 0.35 pounds of active ingredients per gallon.  
Equivalent to 4.000% of active ingredients per gallon.  
EPA Reg. No. 7000-070 EPA Est. No. 51030-GA-01

**KEEP OUT OF REACH OF CHILDREN.**  
**CAUTION**

TREATMENT CODE W

TEST  
E OR

ION APPLIED FOR

Net contents: 1 gallon (3.79 liters)

(01) 0 00 26223 02405 0

BASF Corporation  
P.O. Box 13528, Research Triangle Park, NC 27705

**NOTICE**  
Unauthorized propagation, exchange, delivery, trans-  
mission of the U.S.











Apply Pix EARLY!





# Because DP 555 B/RR has

## extra small seed

- Don't plant it too early
- Don't subject it to significant emergence challenges
- Don't forget to set seed spacing

## full season maturity

- Don't plant it too late
- Don't abuse it with glyphosate
- Don't let insects take early fruit

# FM 989 BR

## STRENGTHS

- Mid maturity
- Good seedling vigor
- Moderate to short stature (less Pix)
- Large bolls

## WEAKNESSES

- Lodging
- Drought tolerance?







# ST 5599 BR

## STRENGTHS

- Medium maturity
- Vigorous growth  
(earlier Pix program)
- ST LA 887 background  
(nematode tolerance)

## WEAKNESSES

- Bronze wilt





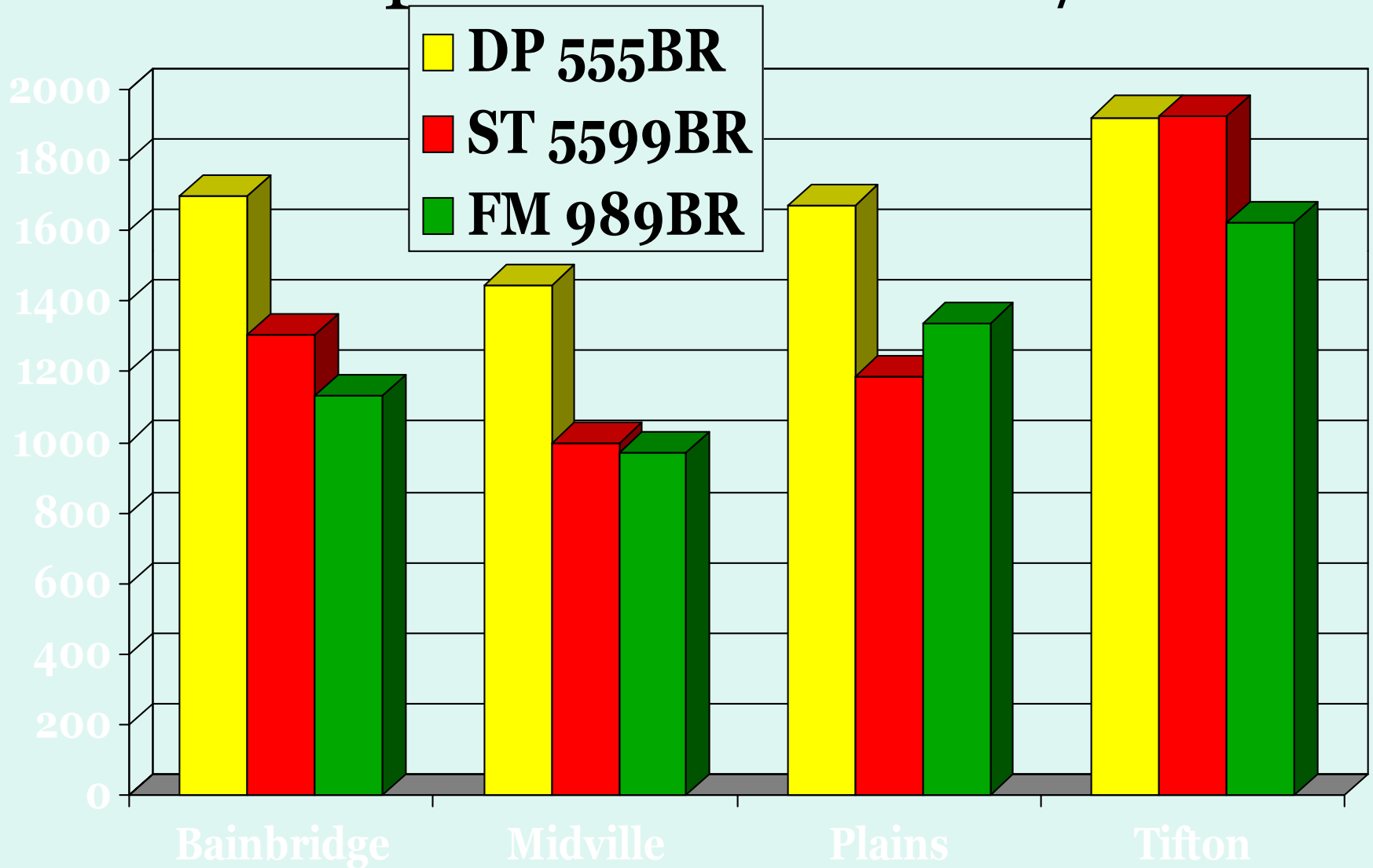
# Stoneville's Management Program to Address Bronze Wilt with ST 5599 BR

*“Growers should be cautioned Bronze Wilt has been observed in this variety.”*

- ✓ Plant on better soils, irrigated fields (avoid drought stress)
- ✓ Plant first half of normal planting window
- ✓ Fertilize appropriately, avoid excess N

# UGA Variety Trials 2002

## Comparisons of New B/R



# 2003 Predictions about Varieties

- Several mediocre (yield, quality) varieties will vie for dominance in RR market
- “Stacked gene” acreage will increase because of increased worm pressure in '02 and...
- ✓ DP 555 B/RR will dominate “stacked gene” market and the entire cotton market...if seed supply is adequate, overcome \$ resistance
- Will there be surprises with DP 555 B/RR?

**It's GOT to be Roundup  
Ready!**

**BR or RR?**

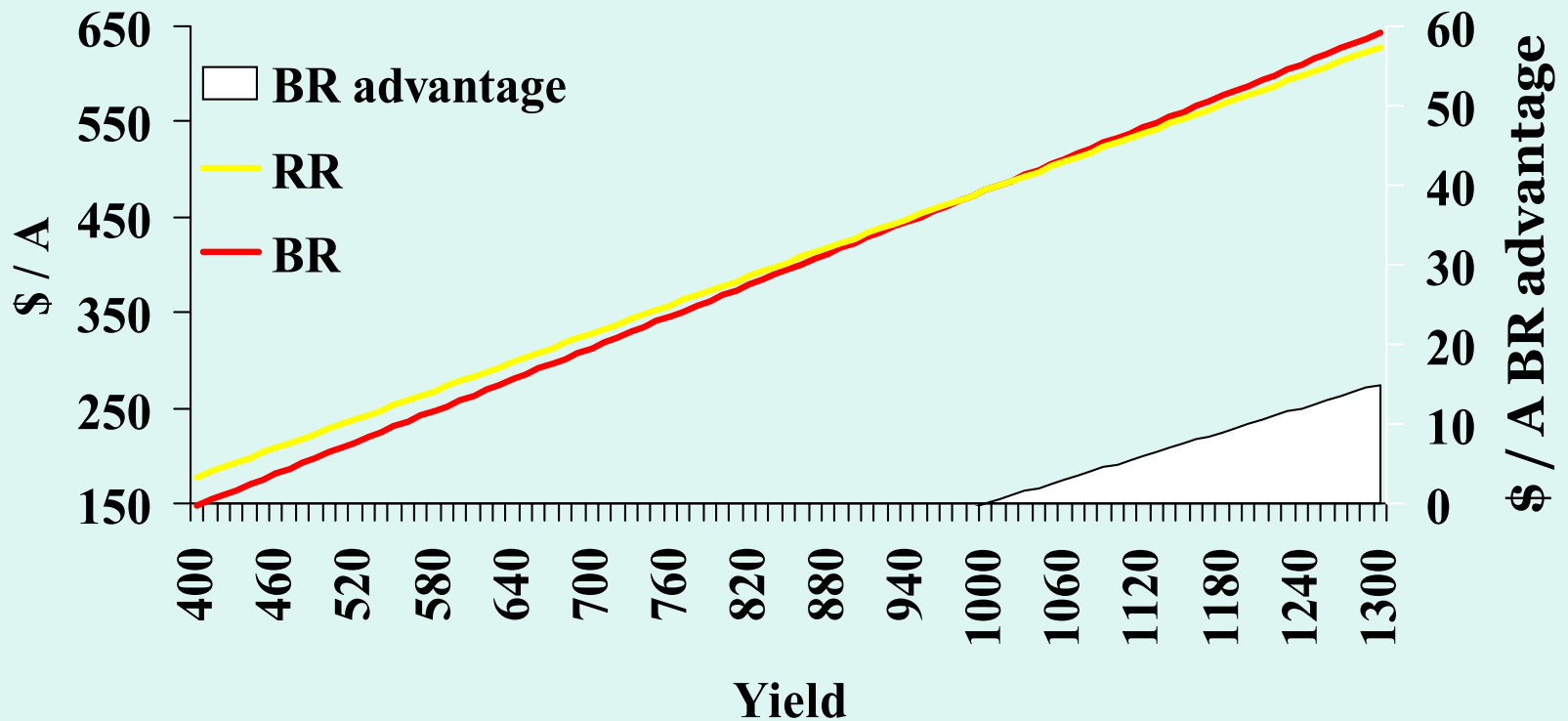
# BR vs. RR Trials

- 10 trials across GA.
- 5 families examined
  - Compare BR and RR variety from same family
  - DP5415, DP51, SG125, FM989, ST474
- Insect control applied to all varieties based on pressure in RR varieties
  - Thus, difference in performance due to variety, not insect control
- Data averaged across families.



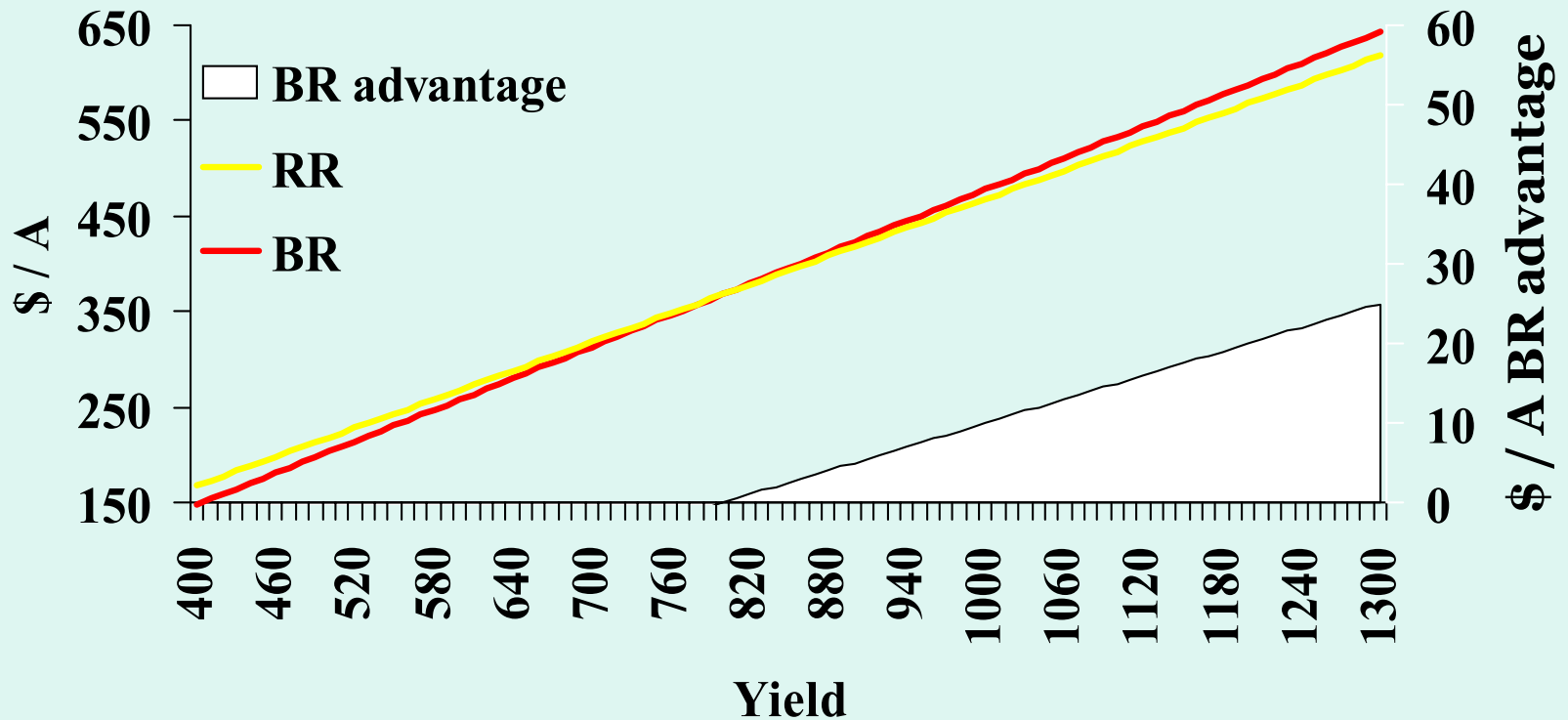
# BR vs RR

*No worm sprays*



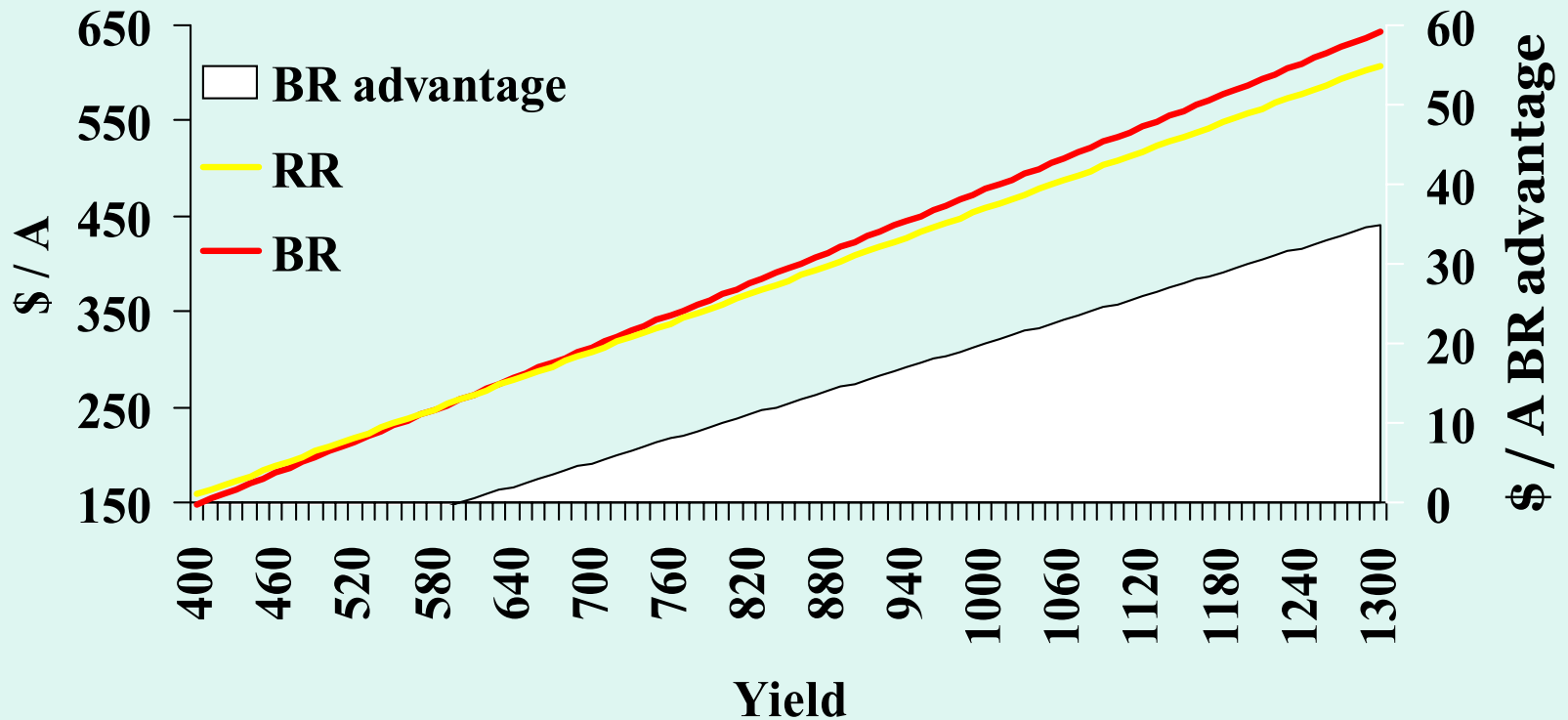
# BR vs RR

*\$10 of worm sprays*



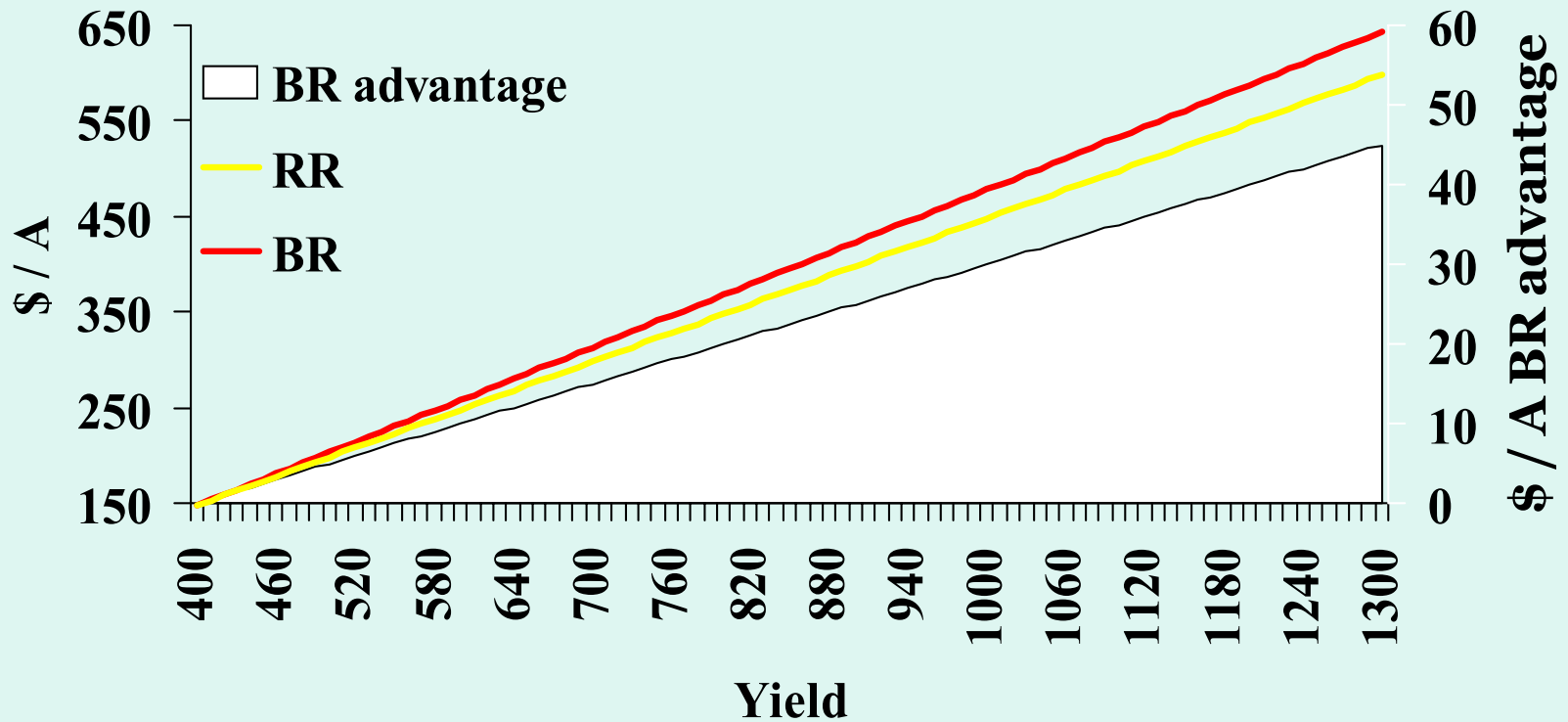
# BR vs RR

*\$20 of worm sprays*



# BR vs RR

*\$30 of worm sprays*



Don't  
put  
all  
your  
eggs  
in  
one  
basket!





