DuPont™ Prevathon™
insect control
powered by
RYNAXYPYR®

Prevathon™ Insect Control

Powerful Worm Control With Flexibility

Dickie Edmund
DuPont Crop Protection
Field Development

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The miracles of science™

Rynaxypyr® Technical Info and Formulations

- Rynaxypyr® is labeled on more than 400 crops
- Currently sold as:
  - Coragen®: 1.67 lb ai/gal suspension concentrate - Primarily vegetables
  - Altacor®: 35 % water-dispersible granules - Primarily fruit
  - Dermacor® X-100 : 5.21 lb ai/gal suspension concentrate - Seed treatment formulation
  - Prevathon™ : 0.43 lb ai/gal suspension concentrate - Primarily row crops
- Excellent Toxicology – No Signal Word Required
  - Applicator PPE: Long-sleeve shirt & long pants, shoes plus socks
  - REI: 4 hours
- Unique attributes:
  - Systemic insecticide (application methods include seed treatment, in-furrow, transplant water, hill drench, surface band, soil shank, drip chemigation, and foliar)
  - Long residual – up to 21 days

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Crops

Reliable, consistent control

Prevathon™

- Cotton
- Corn (Field, Seed and Pop)
- Alfalfa
- Pasture
- Sugarcane

(Anticipate soybean, sorghum, and wheat labels in 2013)

Recommendations for DuPont™ Prevathon™ – Cotton

Count on DuPont for powerful worm control and flexibility that help optimize yield

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DuPont™ Prevathon™ Use Rates — Cotton		
Target Pest	**Rate of Application**	
	Lb active ingredient per acre	**Fluid ounces per acre**
Beet armyworm Cotton bollworm* Fall armyworm Saltmarsh caterpillar Southern armyworm Tobacco budworm* Western yellowstriped armyworm	0.047 - 0.09	14.0 - 27.0
Cabbage looper Soybean looper**	0.067 - 0.097	20.0 - 29.0

Last application (days to harvest) 21 days.
Make no more than 4 applications per acre per crop.
Do not apply more than 59.7 fl oz Prevathon™ or 0.2 lbs ai/A of chlorantraniliprole containing products per acre per crop.
The minimum interval between treatments is 5 days.
Do not use an adjuvant with applications of Prevathon™.

* For Heliothine control (cotton bollworm and/or tobacco budworm) make the first application at rates of 0.067 - 0.09 lb ai/A (20.0 - 27.0 oz product). Subsequent applications can be at rates of 0.047 - 0.09 lb ai/A (14.0 - 27.0 oz product) depending on pest pressure.

** Suppression only.

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Performance against *Heliothis spp.* on Conventional Cotton vs Competitors

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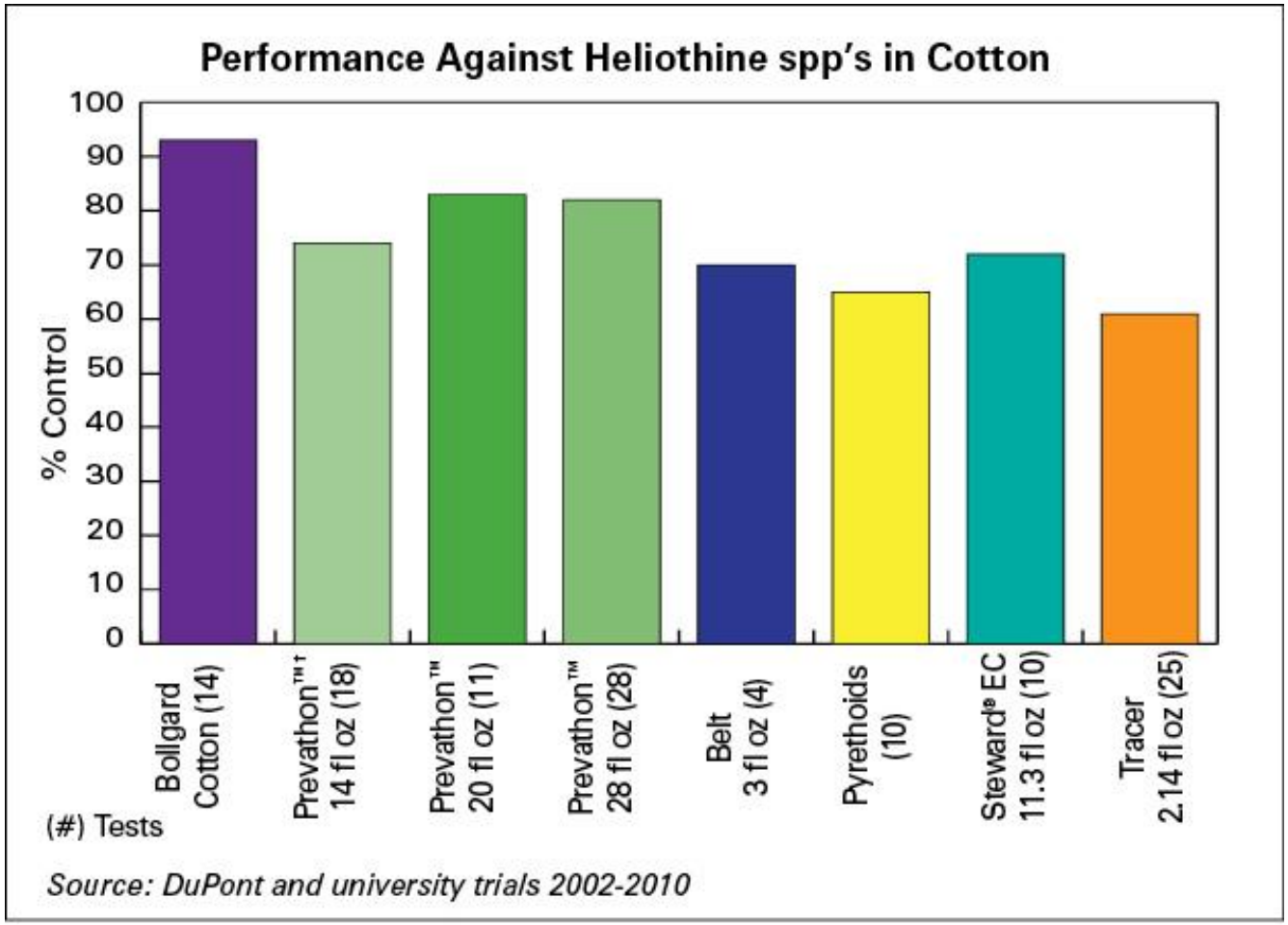

† Equivalent. Formula used in testing was DuPont™ Coragen® 20SC.

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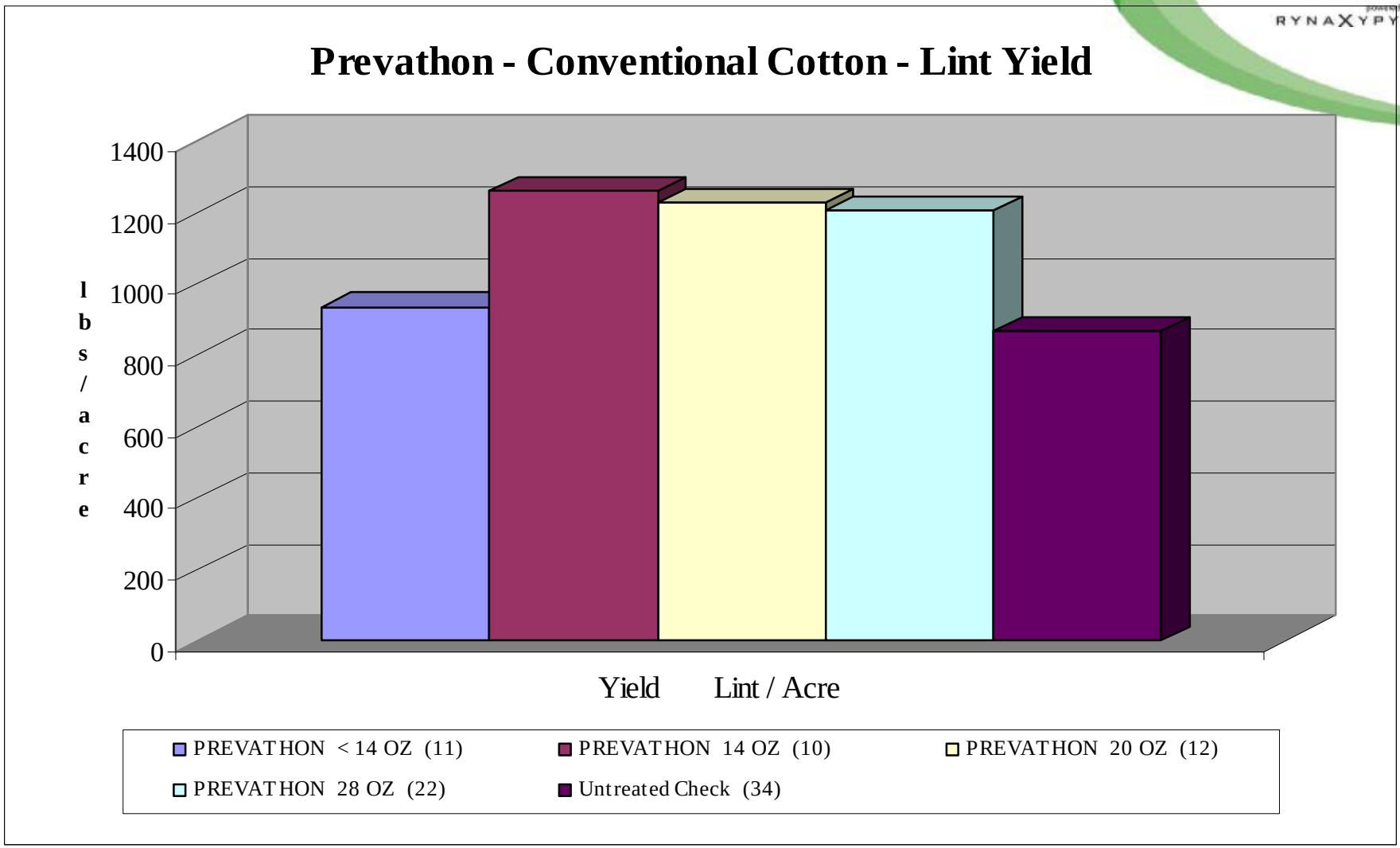
Performance on Conventional Cotton



Data: DuPont and University trials 2002 - 2011

DuPont™ Prevathon™ Insecticide

Heliothine Control In Conventional Cotton

Heavy Insect Pressure

Prevathon™ 27 fb 20 oz/A

Untreated

Dr. Gus Lorenz, University of Arkansas, 2010

Rynaxypyr® Effort in Bt Cottons
(WideStrike®, Bollgard II®)

- Limited research as a Bt overspray prior to 2010
- In 2010, interest as a Bt Overspray increased due to:
  - Greater slippage with Heliothines observed in Bt trait cottons
  - Increasing levels of Pyrethroid resistance in cotton bollworm
  - Extended residual and increased efficacy offered by Prevathon™
  - Increase in cotton price versus years past
- Dr. Gus Lorenz, University of Arkansas, 2010
  - Rynaxypyr® used to maximize potential of Bt cottons
- Expanded effort and focus in 2011
  - Began to look at lower rates compared to pyrethroids
- Effort to be continued in 2012

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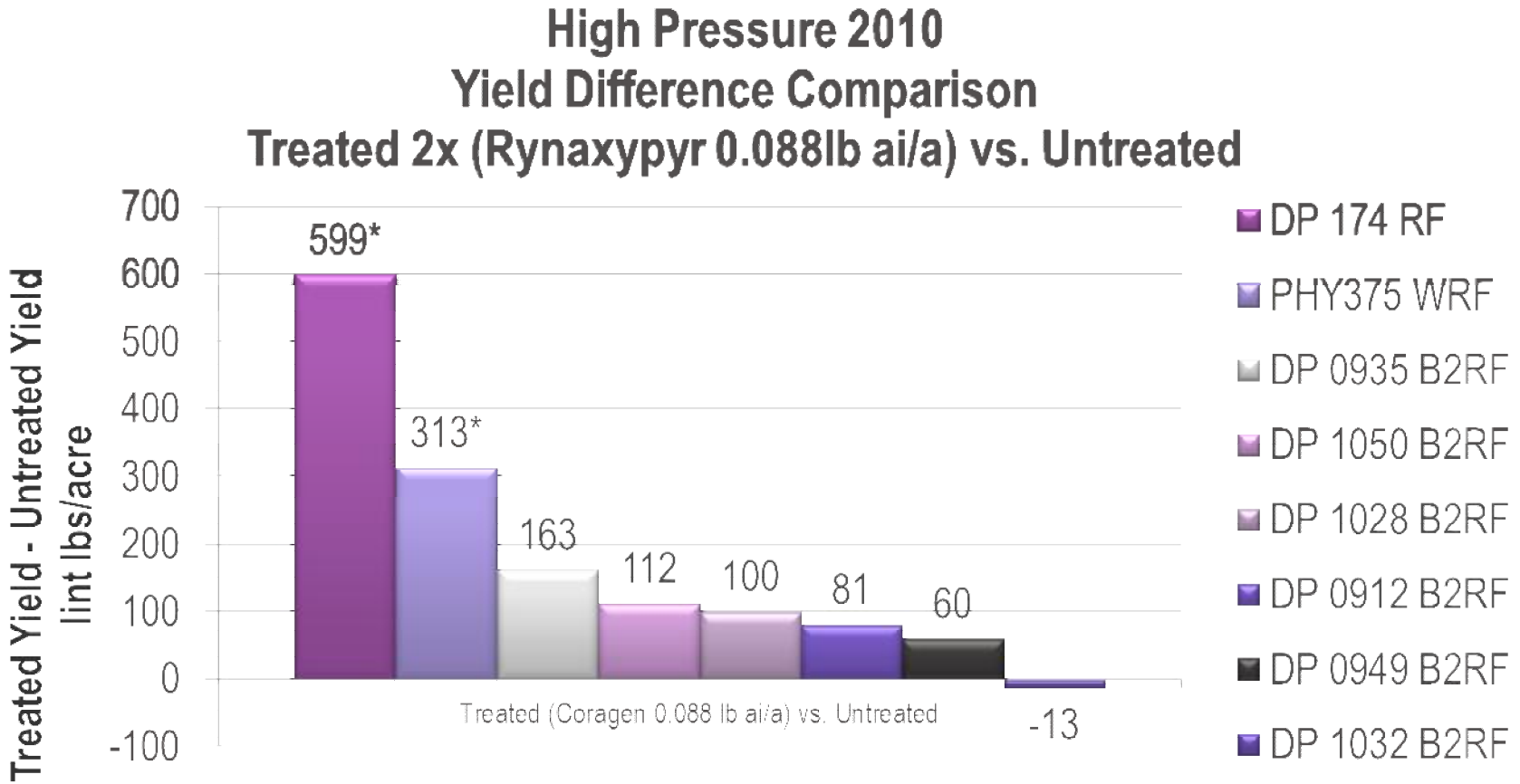
Dr. Gus Lorenz
University of Arkansas, 2010



Bollgard II® Oversprays, 2011

	SWH-11-165 Lorenz, U AR ST 5458 B2RF Lbs Lint/A	SWH-11-165 Lorenz, U AR DP 0912 B2RF Lbs Lint/A	SWL-11-175 Stewart, UT DP 1050 B2RF Lbs Lint/A	SWL-11-175 Stewart, UT DP 0912 B2RF Lbs Lint/A	SWH-11-180 Leonard, LSU DP 1050 B2RF Lbs Lint/A	SOH-11-897 Roberts, UGA DP 0912 B2RF Lbs Lint/A	SOH-11-897 Roberts, UGA DP 1050 B2RF Lbs Lint/A
Prevathon	938	974	970	1186	642	1497	1310
Untreated	772	656	919	1004	543	1278	1145
Difference	+166 lbs*	+ 318 lbs*	+ 51 lbs	+ 182 lbs	+ 99 Lbs	+219 lbs	+165 lbs
% Inc vs UTC	22%	48%	5%	18%	18%	17%	14%
Appls / Rate	2 / 20 oz	2 / 20 oz	2 / 24 oz	2 / 24 oz	2 / 23 oz	3 / 27 oz	3 / 27 oz

2011 Yield increase ranged from 51 to 318 lbs lint/A, 5% to 48%
2011 Yield increase averaged 171 lbs lint/A, 20% yield increase

Dr. Gus Lorenz, University of Arkansas
Dr. Roger Leonard, LSU

Dr. Scott Stewart, University of Tennessee
Dr. Phillip Roberts, University of Georgia

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WideStrike® Oversprays, 2011

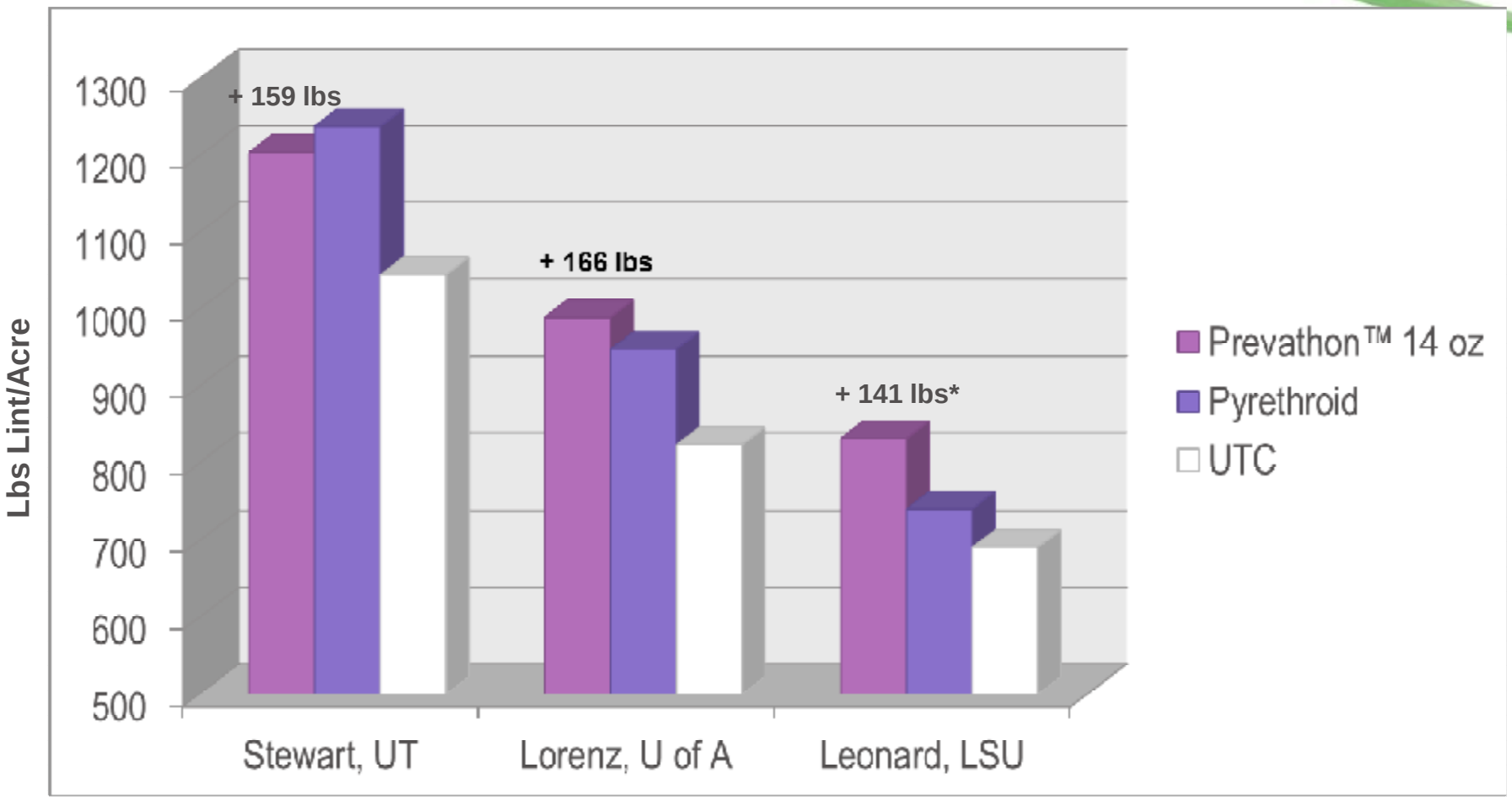
	SWH-11-165 Lorenz, U AR Phy 375 WRF Lbs Lint/A	SWL-11-175 Stewart, UT Phy 375 WRF Lbs Lint/A	SWH-11-180 Leonard, LSU Phy 375 WRF Lbs Lint/A	SOH-11-897 Roberts, UGA Phy 499 WRF Lbs Lint/A
Prevathon™	873	1172	829	1474
Untreated	557	955	725	1253
Difference	+316 lbs*	+ 217 lbs	+ 104 lbs	+ 221 lbs
% Inc vs UTC	57%	23%	14%	18%
Appls / Rate	2 / 20 oz	2 / 24 oz	2 / 23 oz	3 / 27 oz

2011 Yield increase ranged from 217 to 316 lbs lint/A, 14% to 57%
2011 Yield increase averaged 251 lbs lint/A, 28%

Dr. Gus Lorenz, University of Arkansas
Dr. Roger Leonard, LSU

Dr. Scott Stewart, University of Tennessee
Dr. Phillip Roberts, University of Georgia

Prevathon™ Oversprays in WideStrike® Cotton, 2011



Dr. Scott Stewart, SWL-11-078, 1 appl: 8/2
Dr. Gus Lorenz, SWH-11-081, 1 appl: 7/23
Dr. Roger Leonard, SWH-11-079, 2 appls: 7/19 & 8/15; *significant vs pyrethroid

Results Summary – Bt Cottons
2010 & 2011 University Data

- Prevathon™ oversprays have resulted in yield increases vs unsprayed
  - Rate of 20 – 27 ozs/A applied 2 to 3 times
    - Bollgard II® – result varied by variety, maximum of 318 lbs lint/A, average of 131 lbs lint/A (13 obs)
    - WideStrike® – maximum increase of 316 lbs lint/A, average of 234 lbs lint/A (5 obs)
  - Rate of 14 ozs/A applied 1 to 2 times applied to WideStrike® cotton
    - Average yield increase of 155 lbs lint/A (3 obs)
    - Prevathon™ resulted in yield increases greater than a pyrethroid overspray in 2 of 3 trials (LA*, AR)

- 2012 Focus on WideStrike® and Bollgard II® cottons:
  - Define Rate Structure
  - Number of Applications
  - Tankmix partners

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Prevathon™

- Control of all key lepidopterous pests
- Expect at least 14 days residual
- Tankmix to broaden spectrum (plant bug, fleahopper, stink bugs)

• Conventional Cotton

- Use rate of 20 oz/A, up to 3 applications
- Time application to egg lay, take advantage of residual
- Current data supports yield increases of 400 to 800 lbs lint/A

• Bollgard® II & Widestrike® Cottons

- Current label recommends 1st application at 20 oz/A, 2nd application may be 14 oz/A
- Considering a 2ee label for the 14 oz/A rate at 1st application
- Time application to egg lay, usually early bloom, take advantage of residual
- Current data supports yield increases of 130 plus lbs lint/A (BG II) and 200 plus lbs lint/A (WS)

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