Evaluation of Novaluron Phytotoxicity across Burley Tobacco Varieties

2009 Data Summary

Andy Bailey

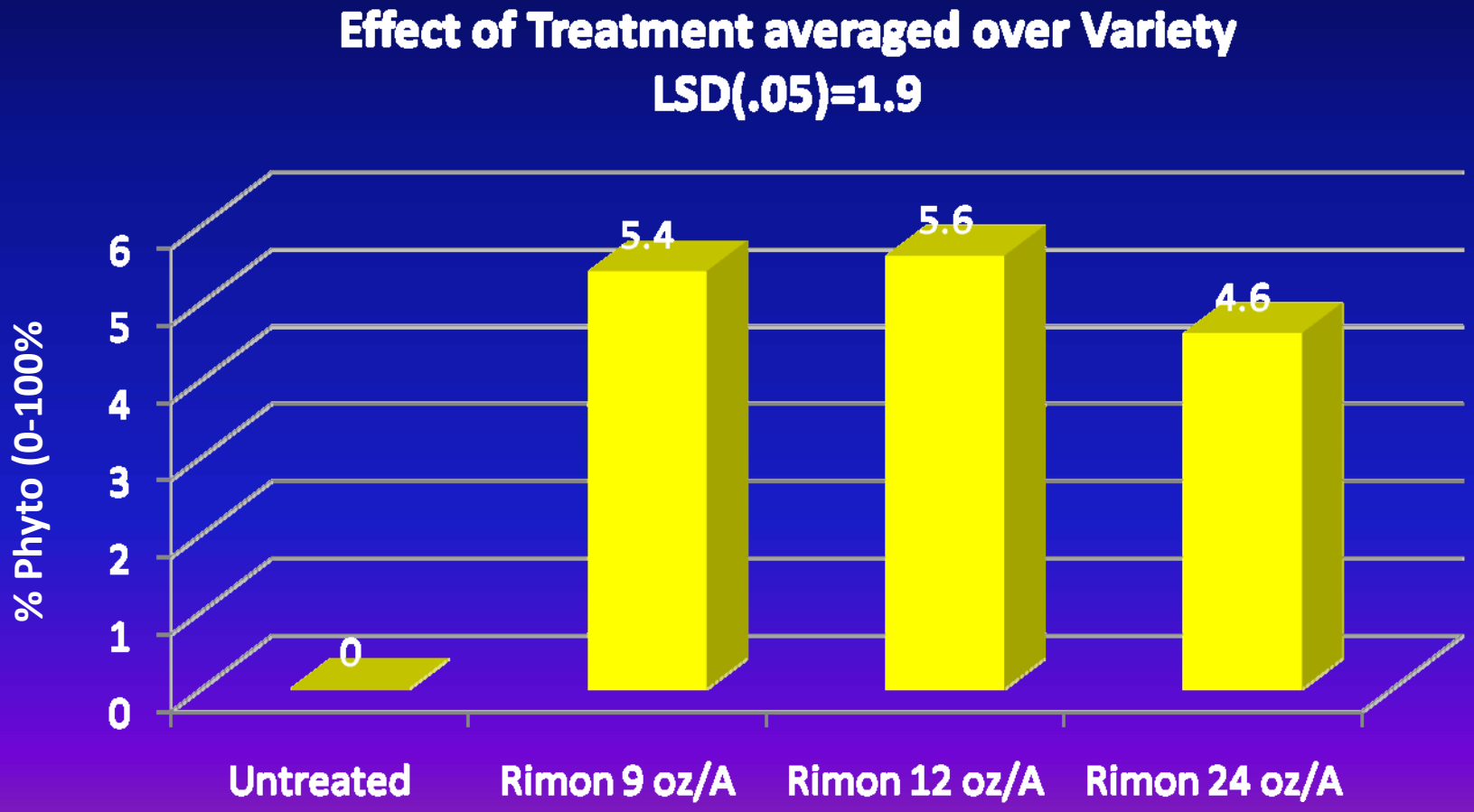
UKREC, Princeton, KY

Tobacco Specialist – Univ. of KY / Univ. of TN

Novaluron Phytotoxicity across Burley Varieties
2009 – UKREC, Princeton, KY

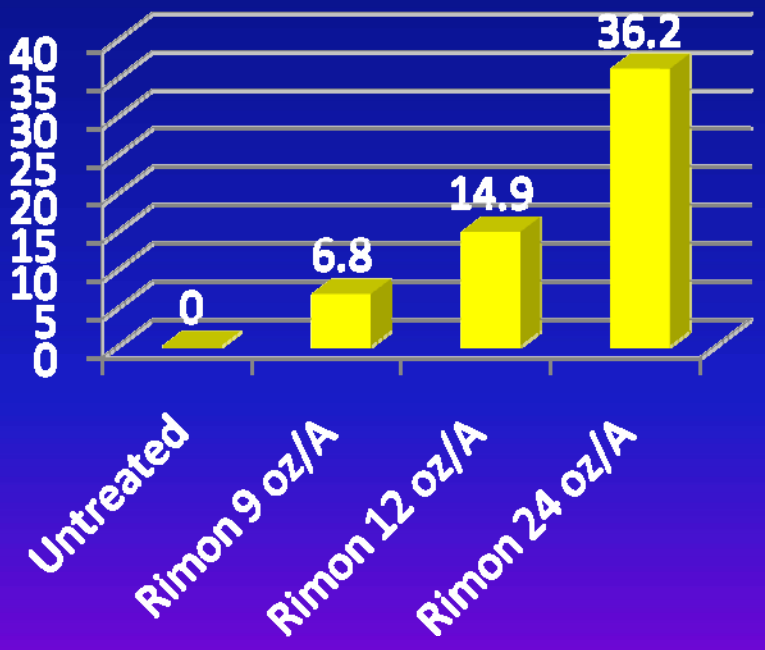
- Objective: evaluate burley variety tolerance to novaluron insecticide
- 5 burley varieties:
  - KT 206LC
  - KT 204LC
  - NC 7
  - KY 14xL8
  - TN 90LC
- Split block variety, RCBD treatment design
- 4 replications
- 2-row plots, 40 ft. long
- 5 applications of Rimon:
  - Untreated
  - 9 oz/A
  - 12 oz/A
  - 24 oz/A
- Tobacco set June 11
- Applications made July 10, July 24, August 11, August 18, August 27
- First 3 applications made at 15 gal/A, applications 4 and 5 made at 30 gal/A.
- Phytotoxicity rating taken within 10 days of each application
- Yield and quality data also being collected

Rating 1: July 17 (7 days after 1st application)
Main Effects of Treatment and Variety
Phytotoxicity on 0 (no injury) to 100 (death) scale

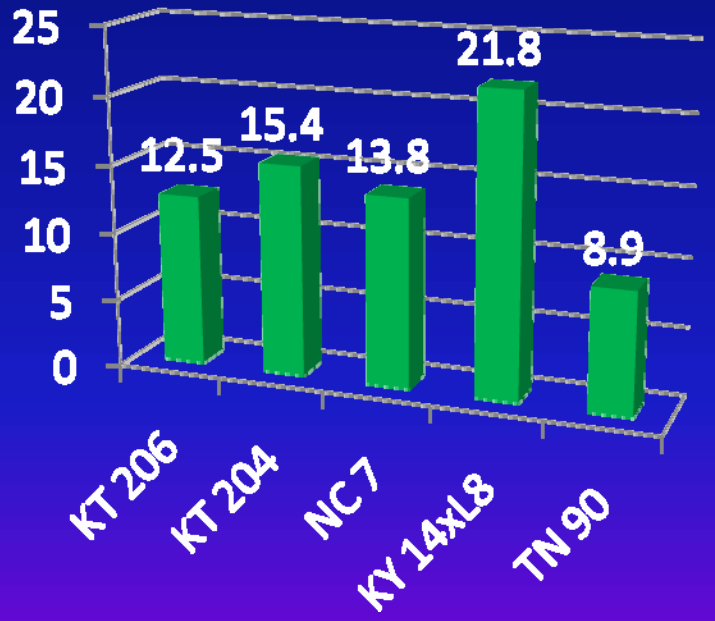


Rating 2: July 28 (4 days after 2nd application) Main Effect of Treatment and Variety

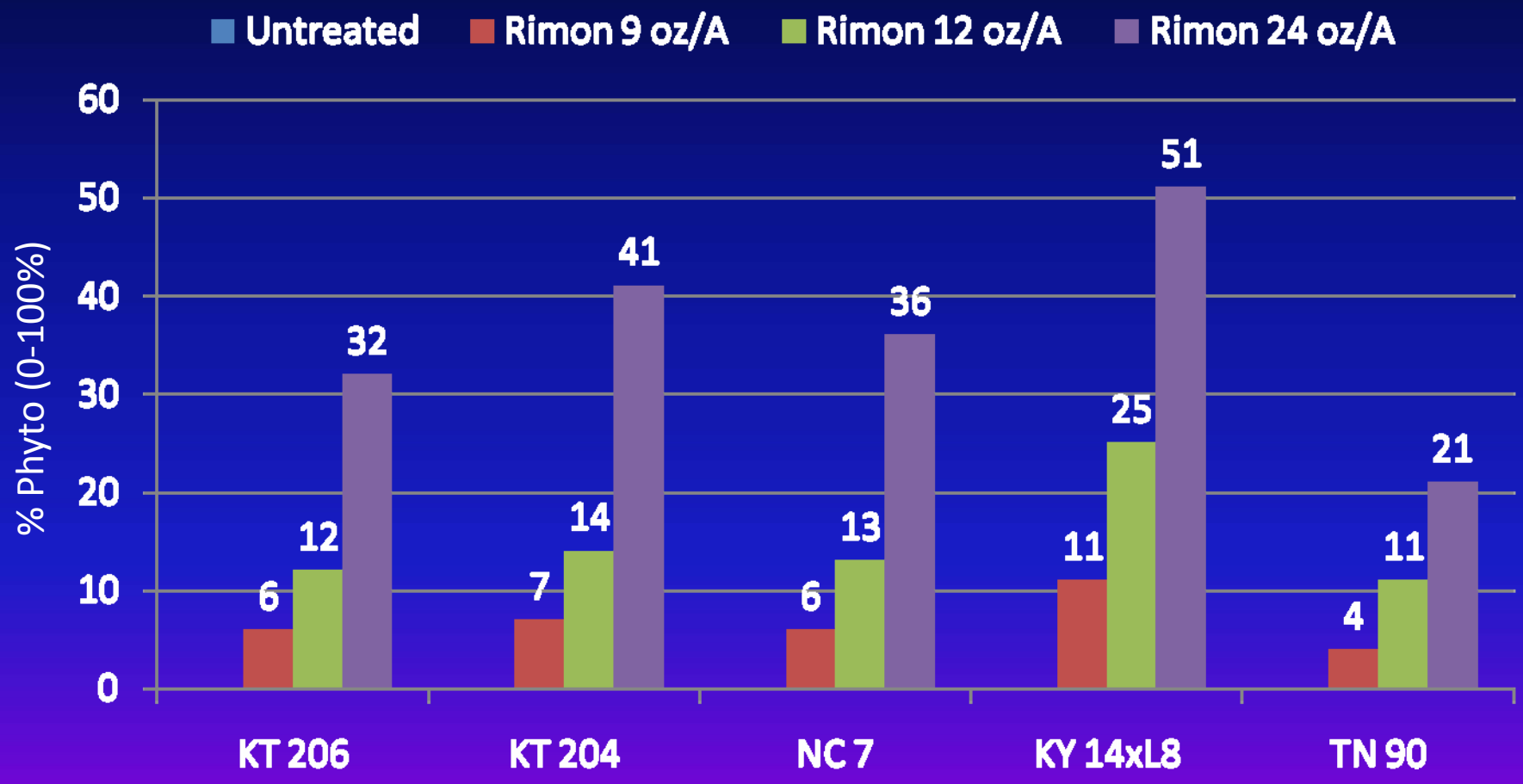
Effect of Treatment averaged over Variety
LSD(.05)=2.3



Effect of Variety averaged over Treatment
LSD(.05)=2.6

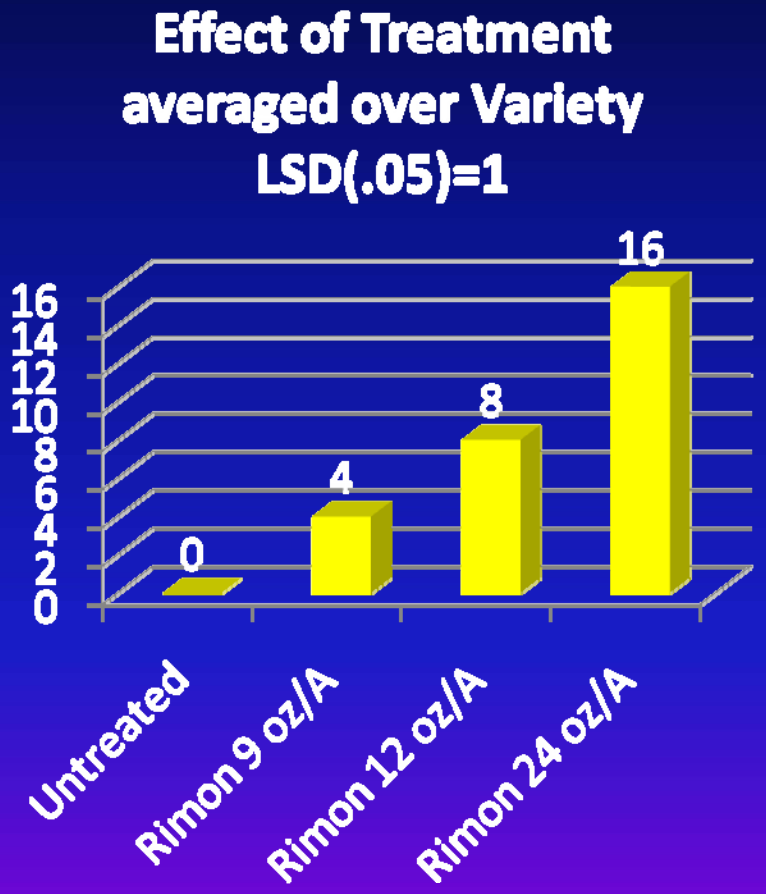


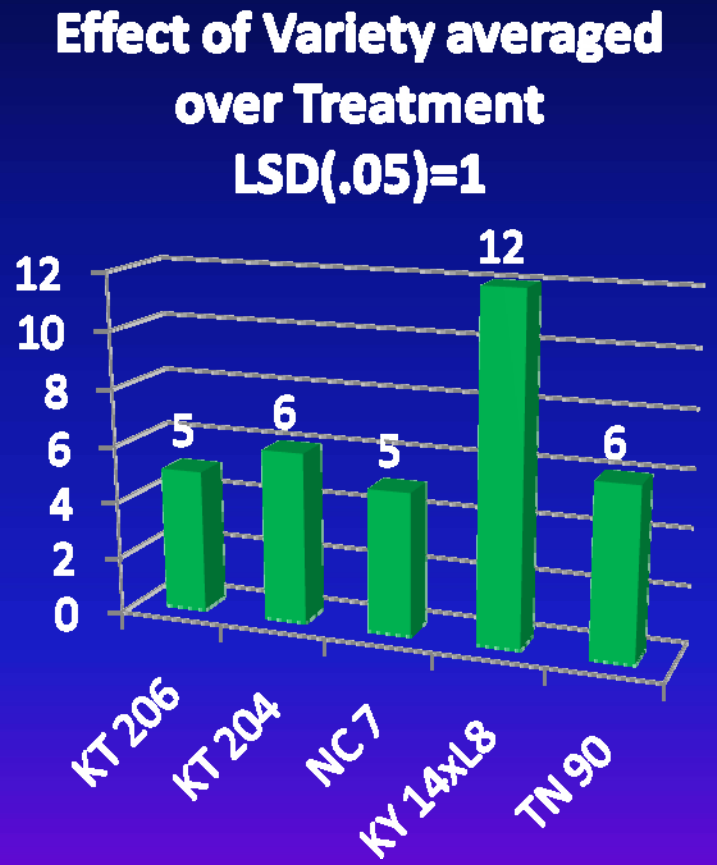
Rating 2: July 28 (4 days after 2nd application) Interaction of Variety and Treatment



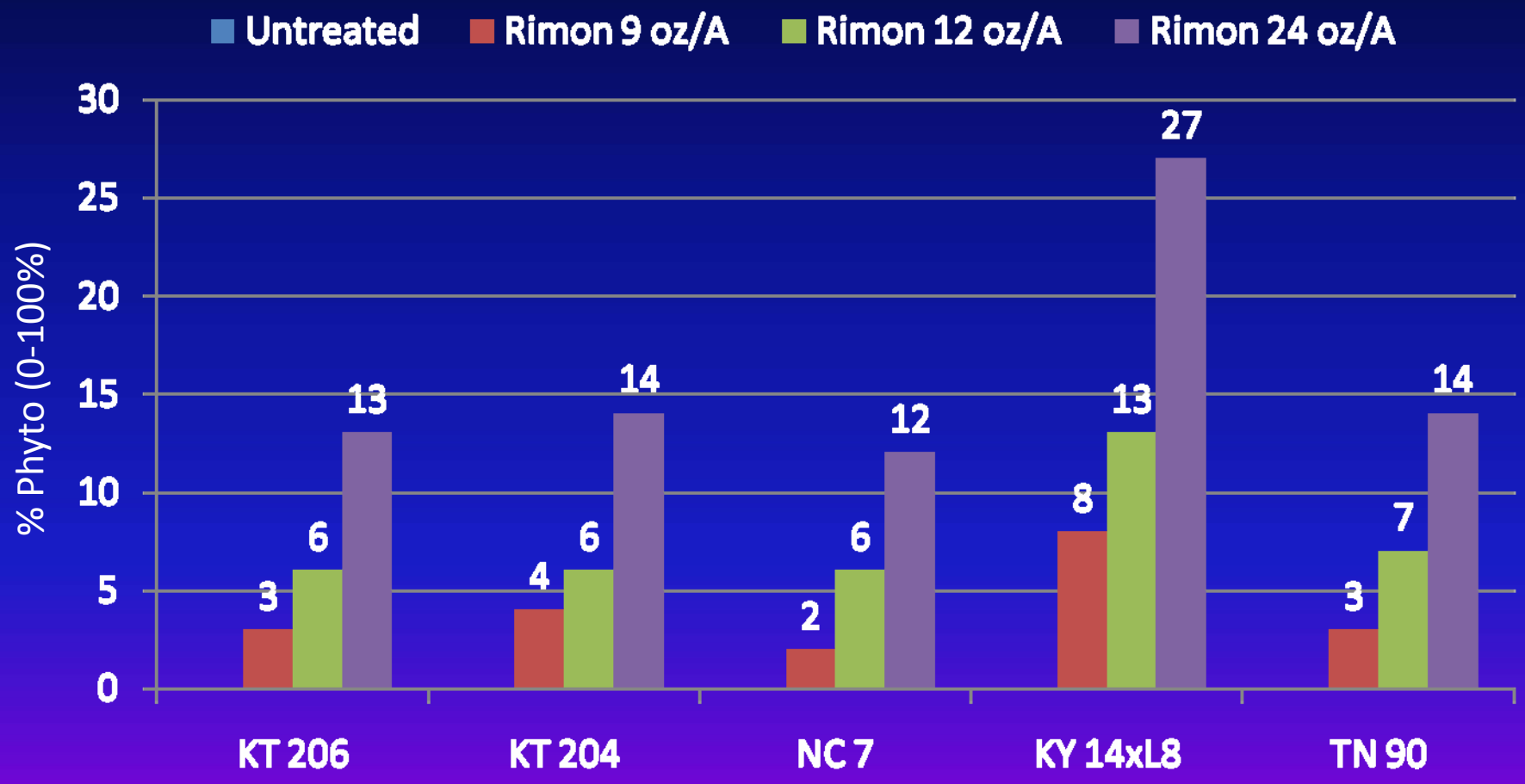
	KT 206	KT 204	NC 7	KY 14xL8	TN 90
LSD(0.05) =	5	3	5	8	7

Rating 3: August 3 (9 days after 2nd application) Main Effect of Treatment and Variety



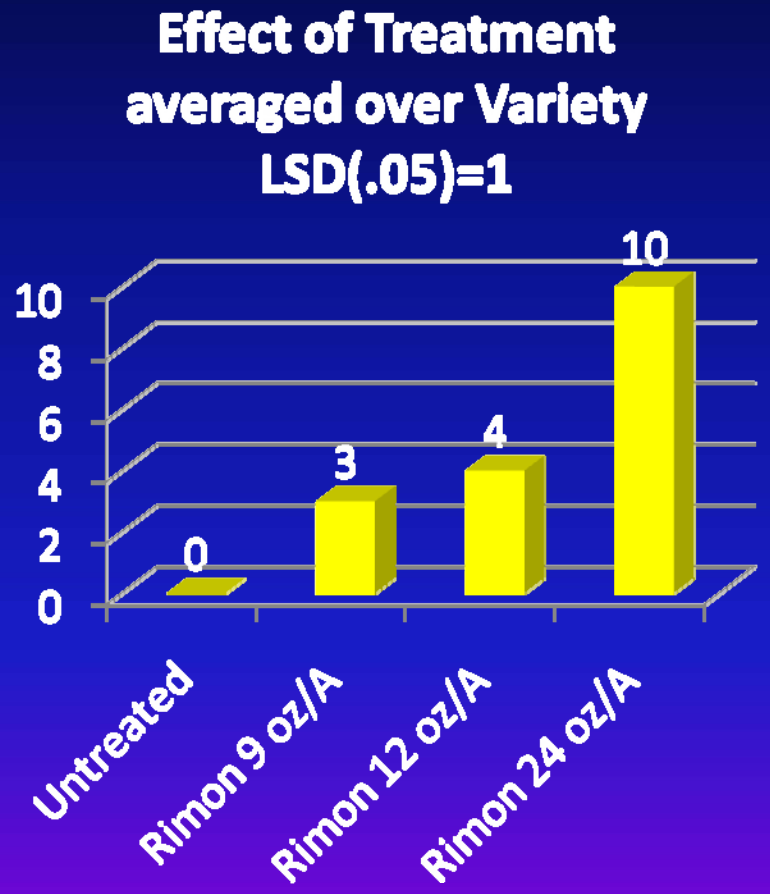


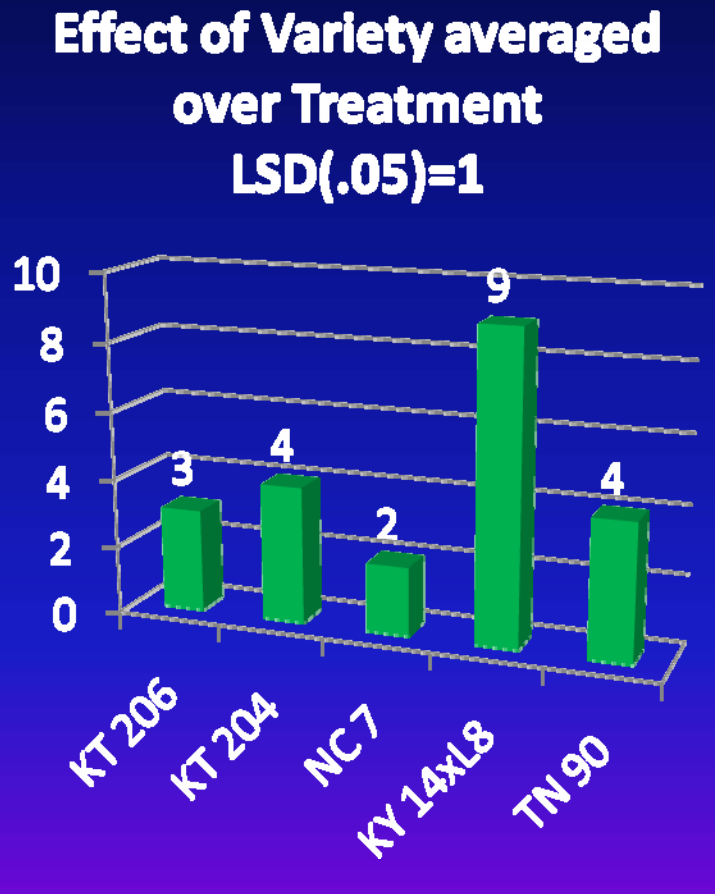
Rating 3: August 3 (9 days after 2nd application) Interaction of Variety and Treatment



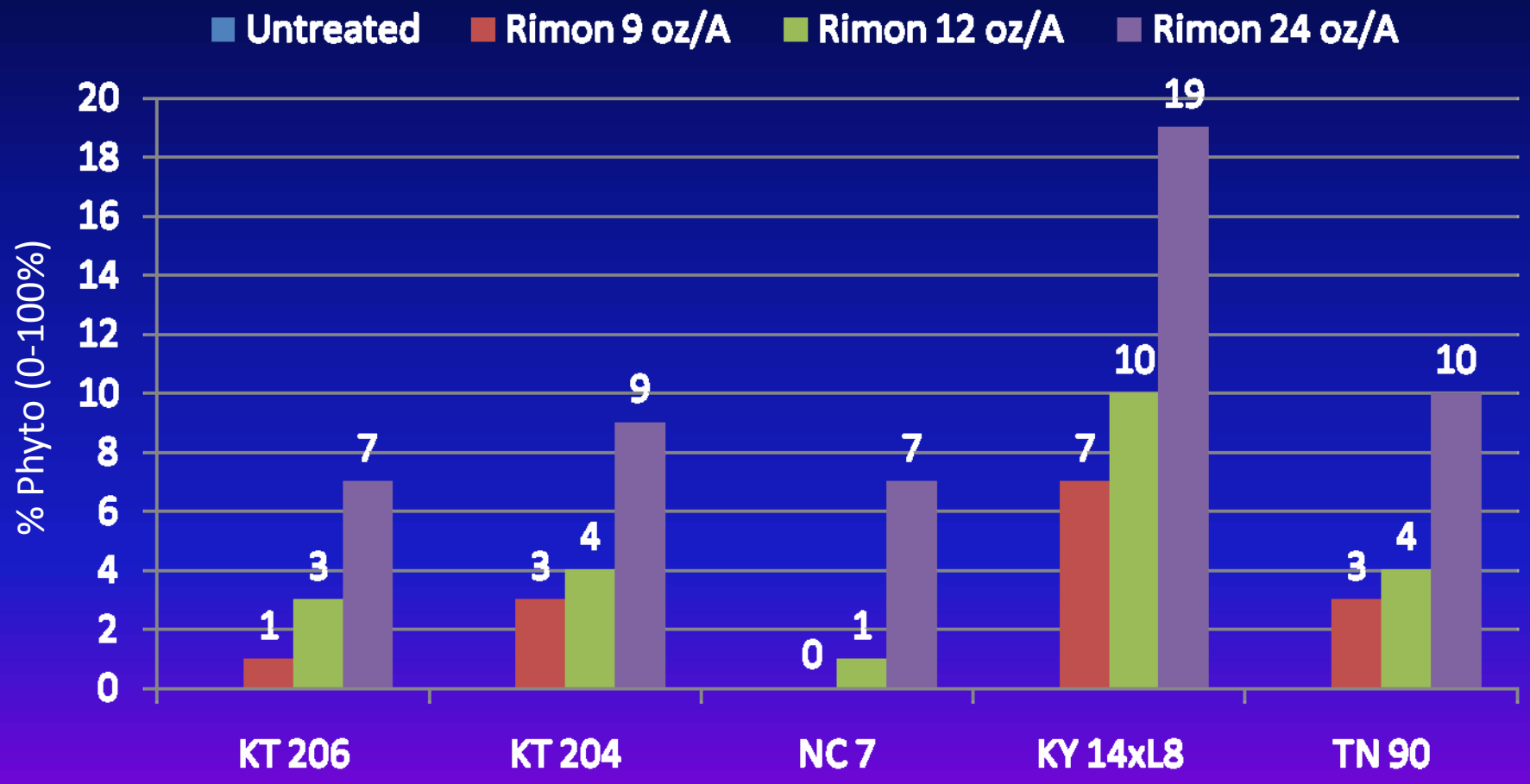
	KT 206	KT 204	NC 7	KY 14xL8	TN 90
LSD(0.05) =	1	2	1	3	2

Rating 4: August 18 (7 days after 3rd application) Main Effect of Treatment and Variety



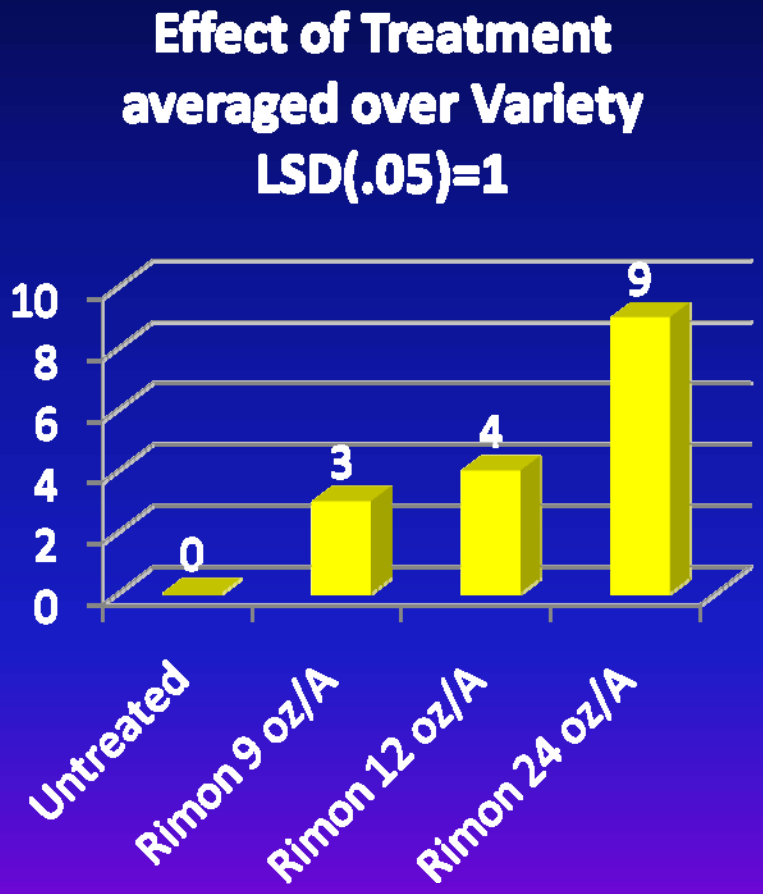


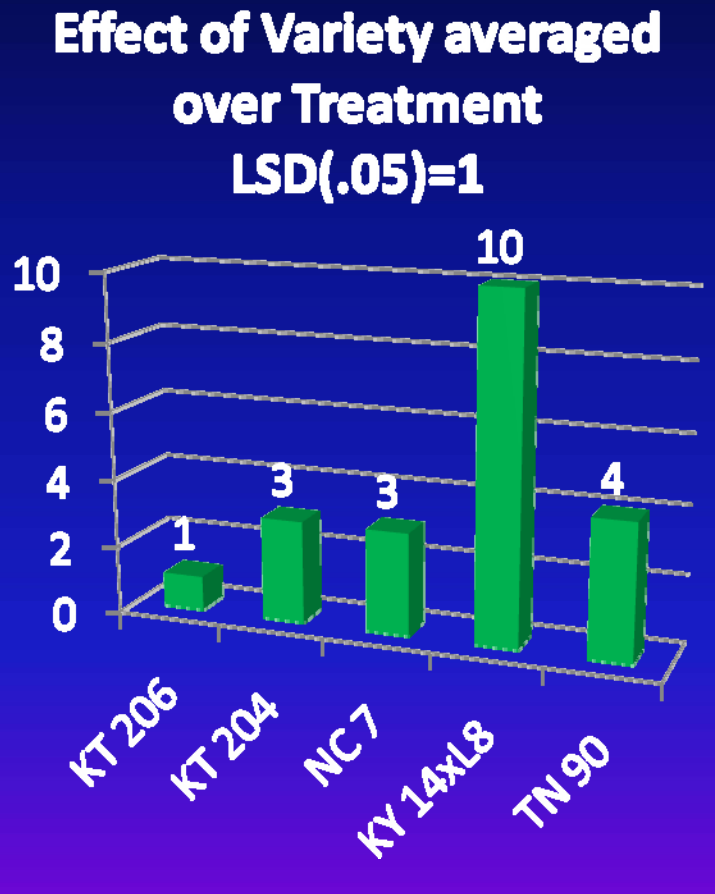
Rating 4: August 18 (7 days after 3rd application) Interaction of Variety and Treatment



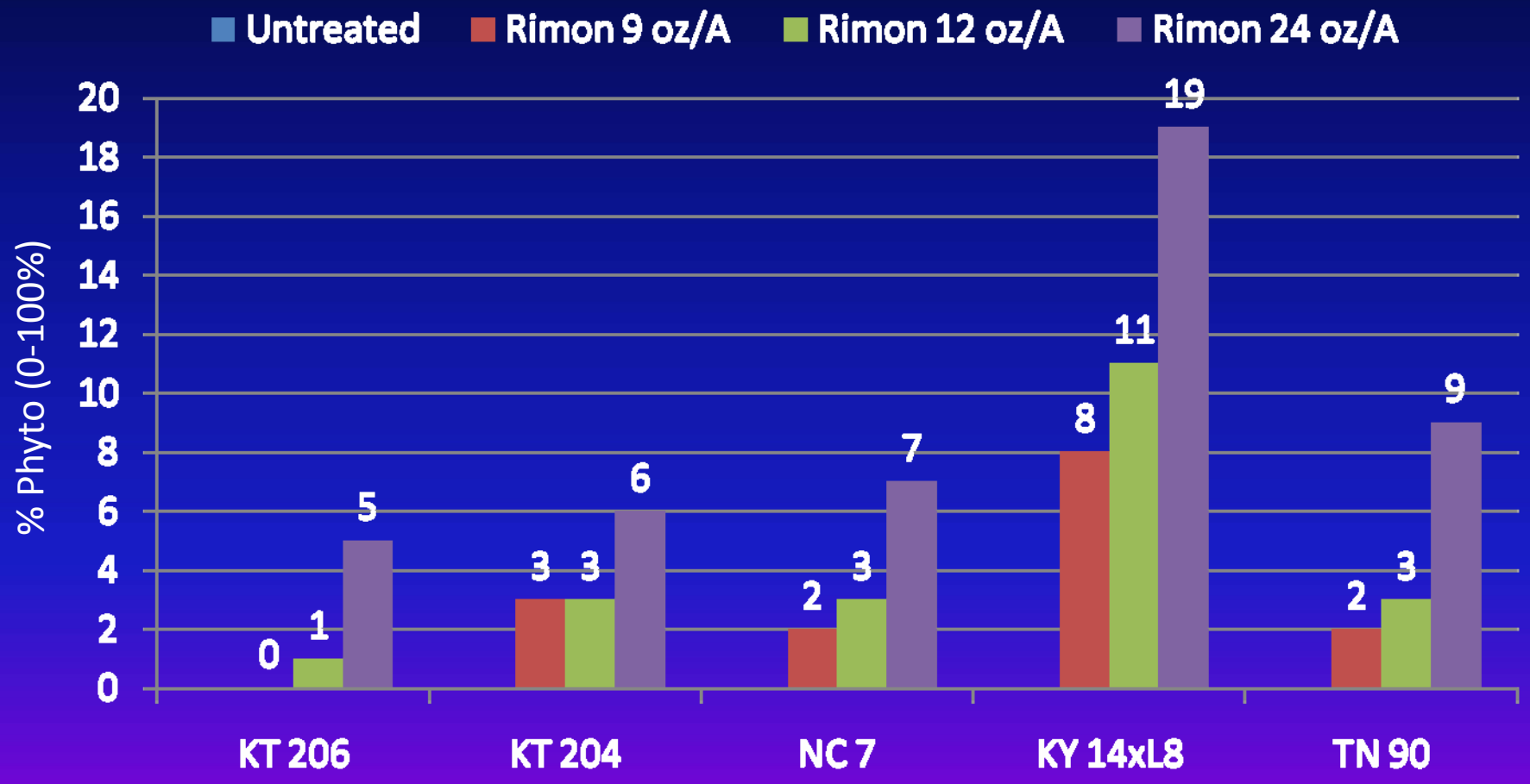
	KT 206	KT 204	NC 7	KY 14xL8	TN 90
LSD(0.05) =	2	2	1	2	2

Rating 5: August 27 (9 days after 4th application) Main Effect of Treatment and Variety



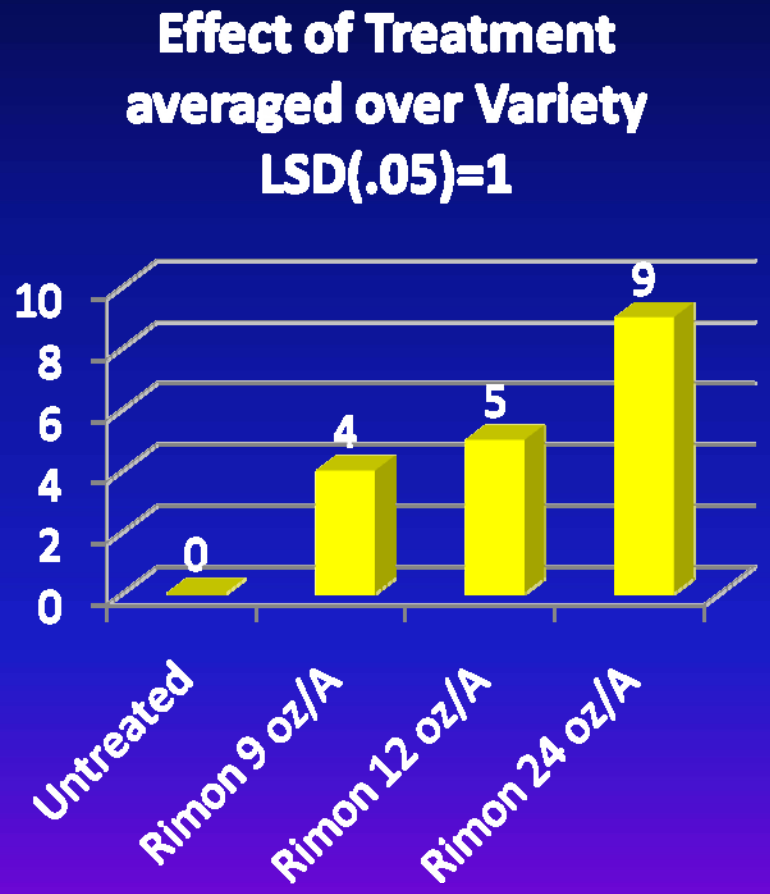


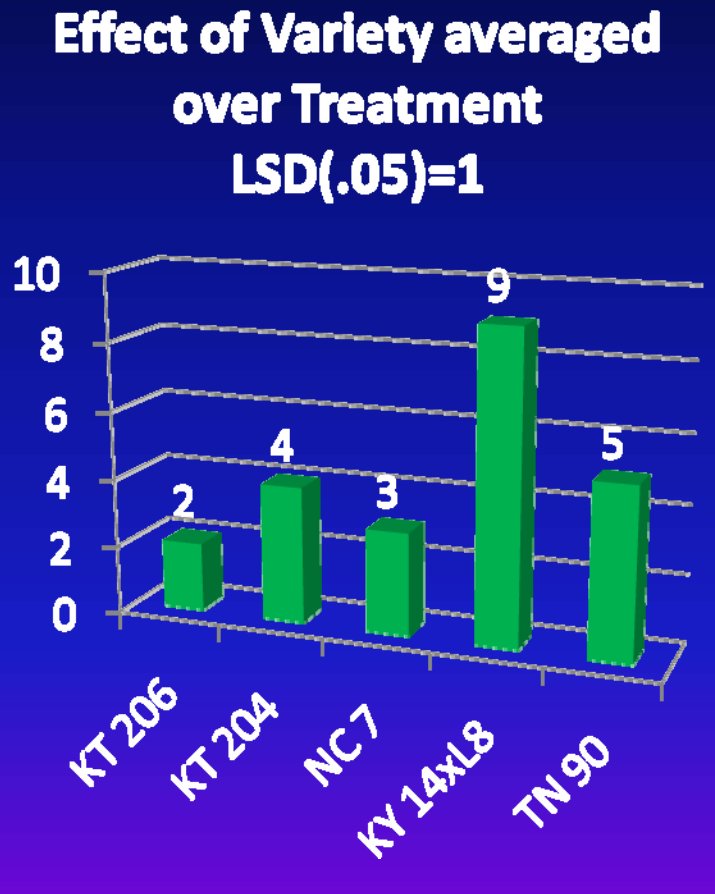
Rating 5: August 27 (9 days after 4th application) Interaction of Variety and Treatment



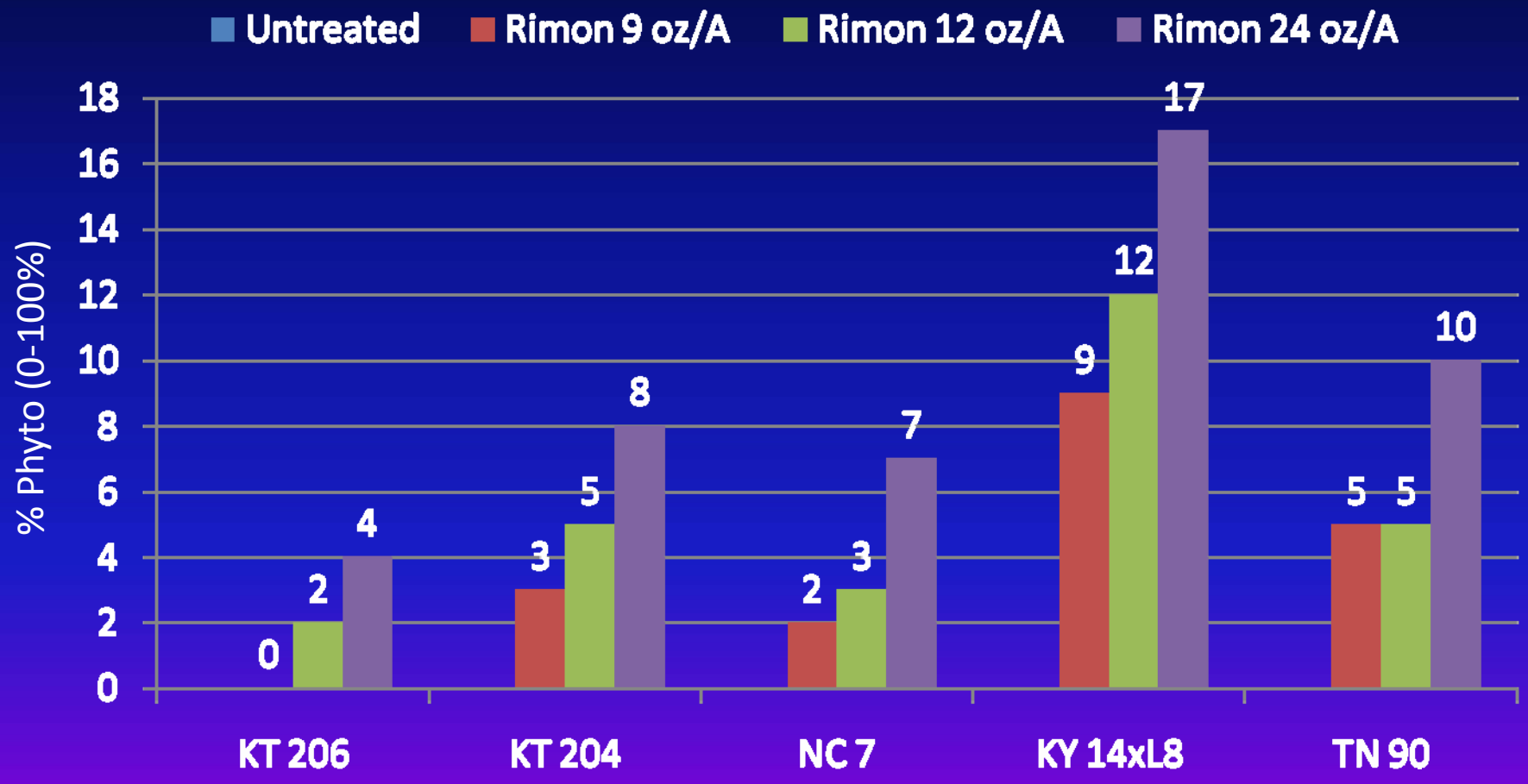
	KT 206	KT 204	NC 7	KY 14xL8	TN 90
LSD(0.05) =	1	2	1	3	2

Rating 6: September 3 (7 days after 5th application) Main Effect of Treatment and Variety





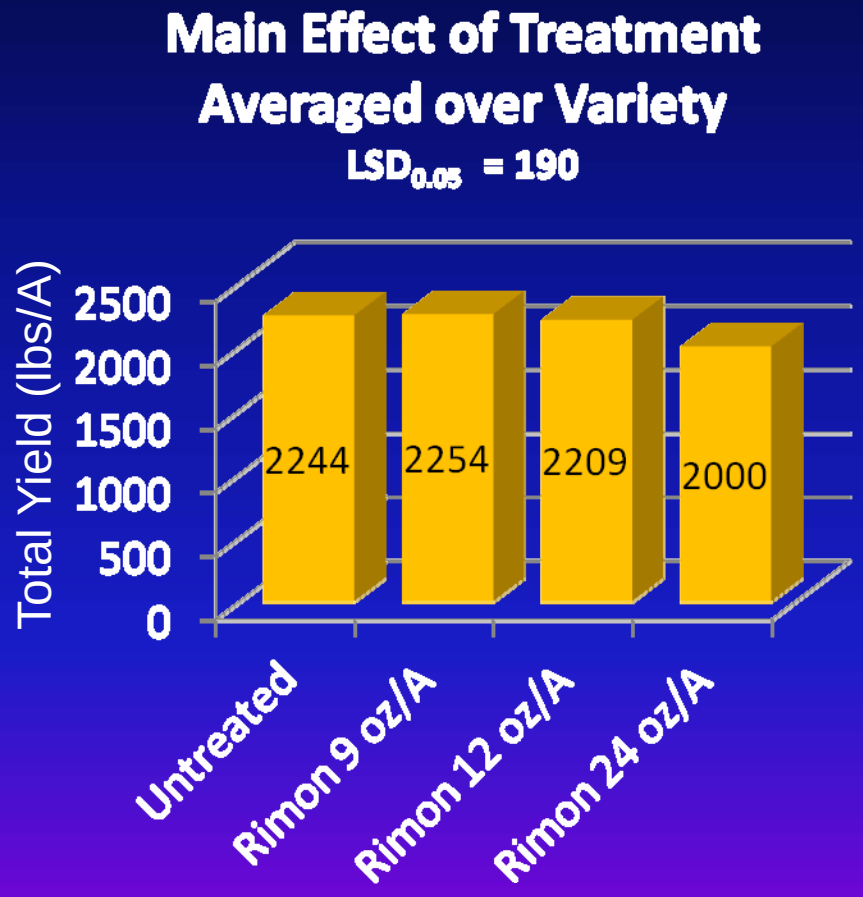
Rating 6: September 3 (7 days after 5th application) Interaction of Variety and Treatment

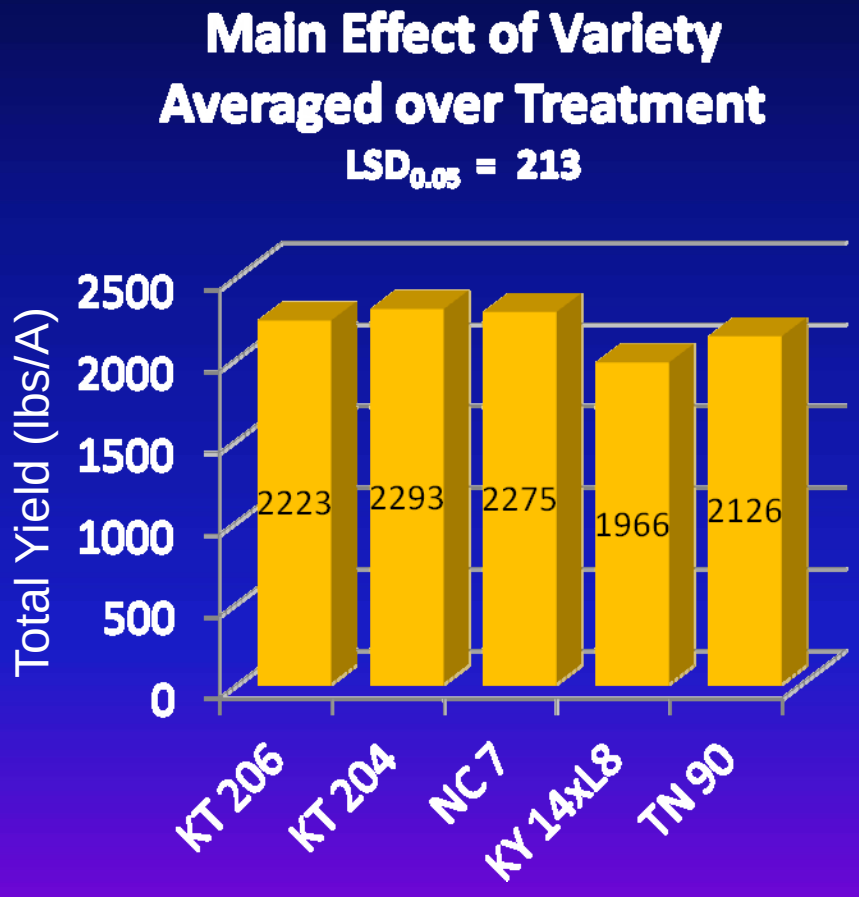


	KT 206	KT 204	NC 7	KY 14xL8	TN 90
LSD(0.05) =	2	3	2	3	2

Burley Yield Response to Novaluron

Main Effects of Treatment and Variety

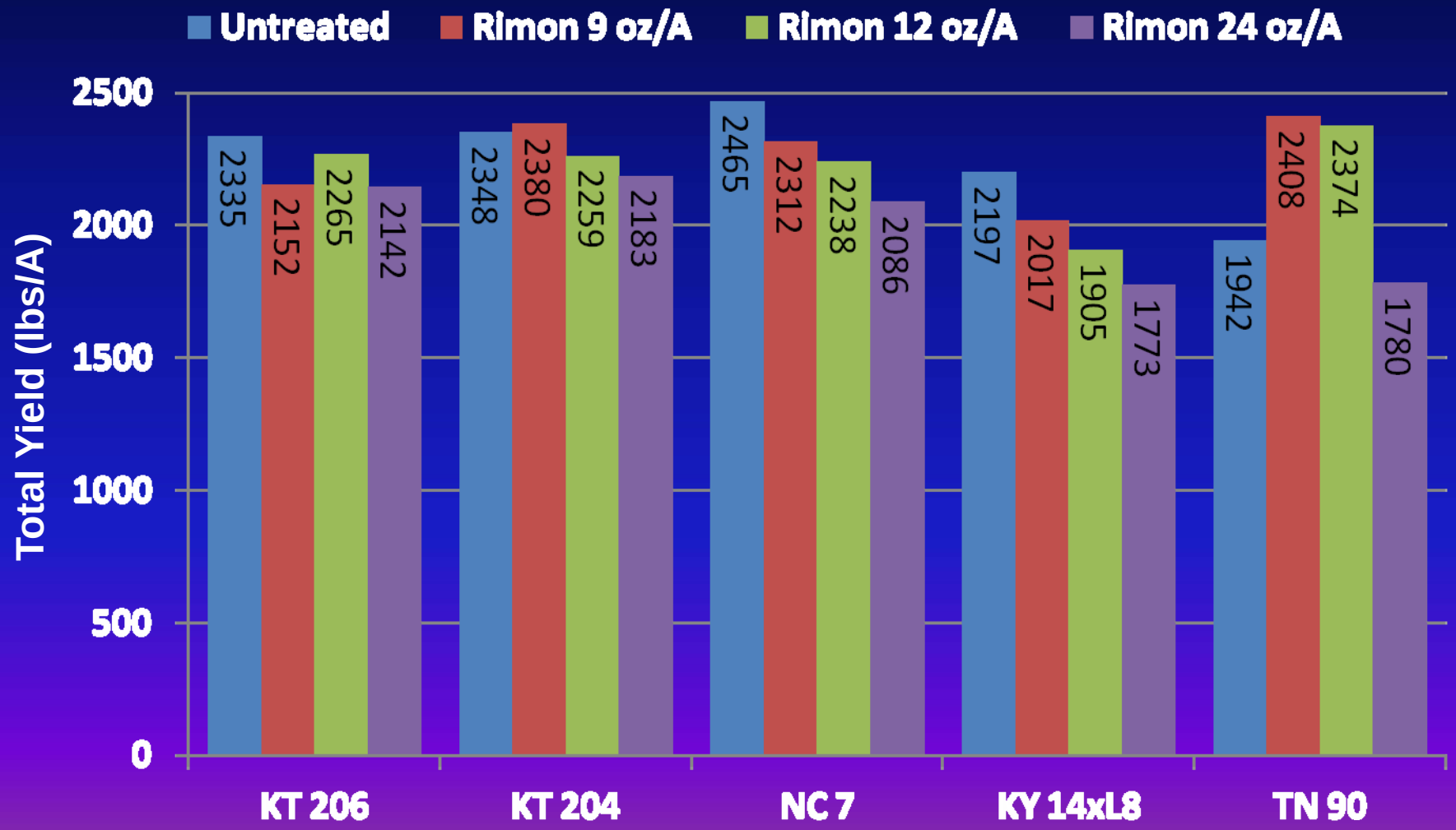




* Total Yield is sum of flyings, cutters, and leaf (no tips)

Burley Yield Response to Novaluron

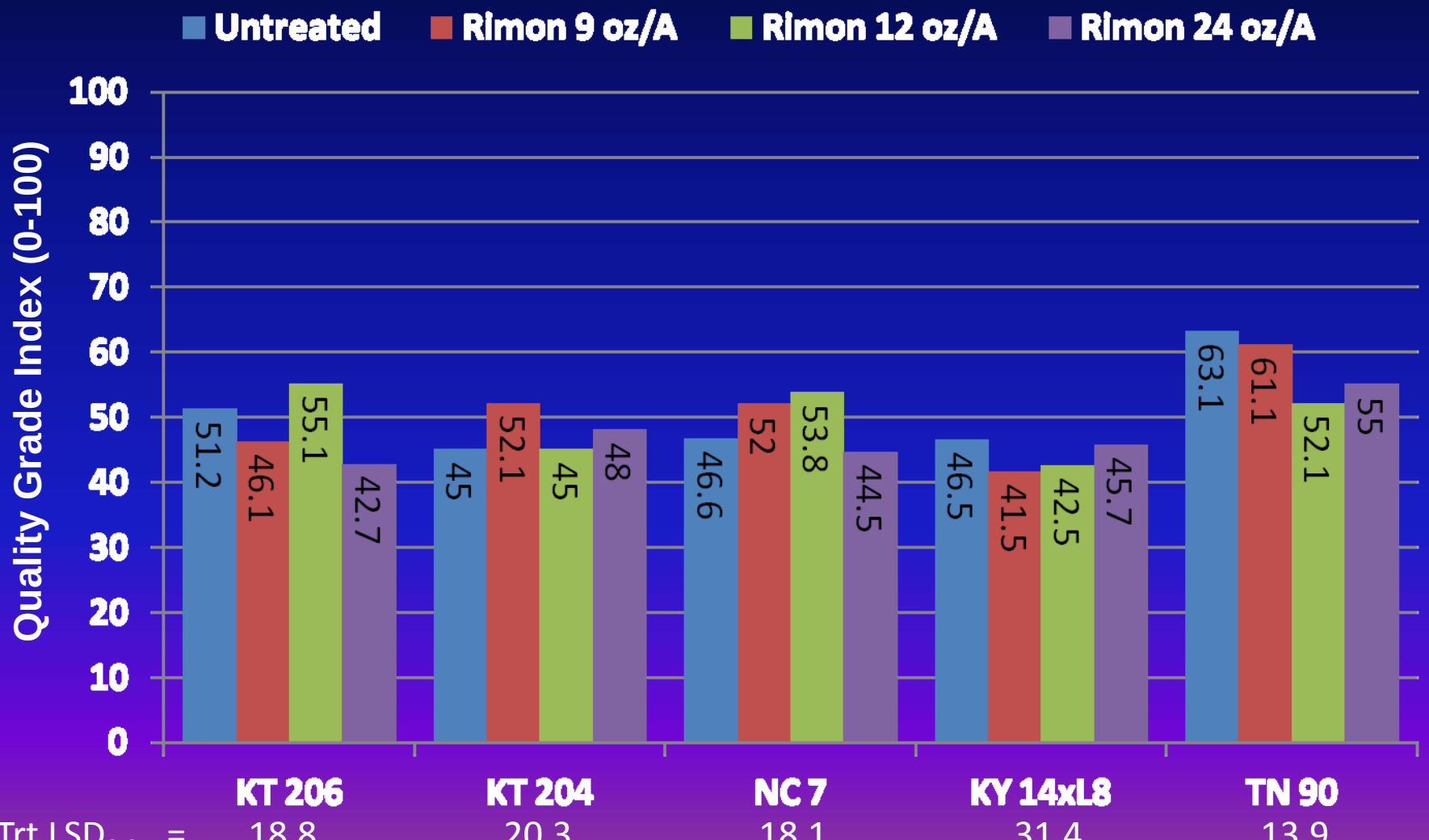
Total Yield by Variety and Treatment



	KT 206	KT 204	NC 7	KY 14xL8	TN 90
Trt $LSD_{0.05}$ =	369	417	399	191*	656

Burley Quality Response to Novaluron

Quality Grade Index by Variety and Treatment



	KT 206	KT 204	NC 7	KY 14xL8	TN 90
Trt $LSD_{0.05}$ =	18.8	20.3	18.1	31.4	13.9

Novaluron Phytotoxicity across Burley Varieties
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Summary

- All 5 varieties showed phyto response to novaluron.
  - Phyto increased as rate increased
- KY 14xL8 was clearly the most sensitive
- Other 4 varieties were similar
  - KT 206 may be most tolerant
- KY 14xL8 was only variety where novaluron treatment significantly reduced total yield/A.
  - All varieties except KT 204 showed differences in cutter yield
- Total quality grade index was not influenced by treatment