

# 2009 Helena Tobacco Fertility Trial

## MSU West Farm – Murray, KY

- Objective of Trial:  
Determine dark tobacco response to float water, setter water, and foliar applications of Helena fertility products.
- Standard fertility program applied to all plots according to soil test recommendation:
  - 150 lbs N/A + 100 lbs P<sub>2</sub>O<sub>5</sub> /A + 220 lbs K<sub>2</sub>O /A pretransplant broadcast and incorporated as urea, DAP, and sulfate of potash
  - Additional 125 lbs N/A applied sidedress with 32% UAN liquid
  - Total 275 lbs N/A, 100 lbs P<sub>2</sub>O<sub>5</sub> /A, 220 lbs K<sub>2</sub>O /A
- Treatment applications made as setter water or broadcast foliar applications at 15 gal/A (app. 1) and 30 gal/A (app. 2)

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- Tobacco Variety: PD 7318LC dark set June 10
- Randomized complete block design with 4 replications.
- Plots 4-rows, 40 ft. long
- Data collected: stand counts and vigor throughout season, dark-fired yield and quality.

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## MSU West Farm – Murray, KY - Treatments

Treatment	Rate	Timing
Standard Fertility NC0801 NC0802 NC0803	Soil test N-P-K 1 gal/A (200 gal) 2 qt/A (200 gal) 1 qt/A (200 gal)	At transplanting
Standard Fertility NC0801	Soil test N-P-K 1 qt/500 gal	In float water 1 wk prior to transplanting
Standard Fertility (untreated check)	Soil test N-P-K only	-
Standard Fertility NC0804 NC0802	Soil test N-P-K 1 gal/A 1 qt/A	Pre-Bloom
Standard Fertility NC0805	Soil test N-P-K 1 qt/A	Pre-Bloom
Standard Fertility NC0802 NC0804	Soil test N-P-K 2 qt/A 1 gal/A	Post-Topping

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## MSU West Farm – Murray, KY – Plot Ratings

Treatment	July 16 rating		July 27 rating	September 1 rating		Sept. 29 rating
	#Plants/ 2 rows	Vigor (1-10)	Vigor (1-10)	#Plants/ 4 rows	Vigor (1-10)	Vigor (1-10)
801+802+803 at setting	31.5	6.5	6.25	60.3	5.5	7.13
801 in float water 1 wk prior to setting	32.1	7.75	8.75	60.7	7.75	8.88
Standard Fertility only	30.8	6.0	6.25	60.0	6.25	8.25
802+804 prebloom	31.0	6.5	6.75	59.5	6.50	7.50
805 prebloom	30.5	6.75	7.0	59.3	6.50	7.50
802+804 post topping	30.8	6.5	6.0	60.0	6.0	8.63
LSD <sub>0.05</sub>	1.3	1.4	1.3	0.95	1.44	2.01

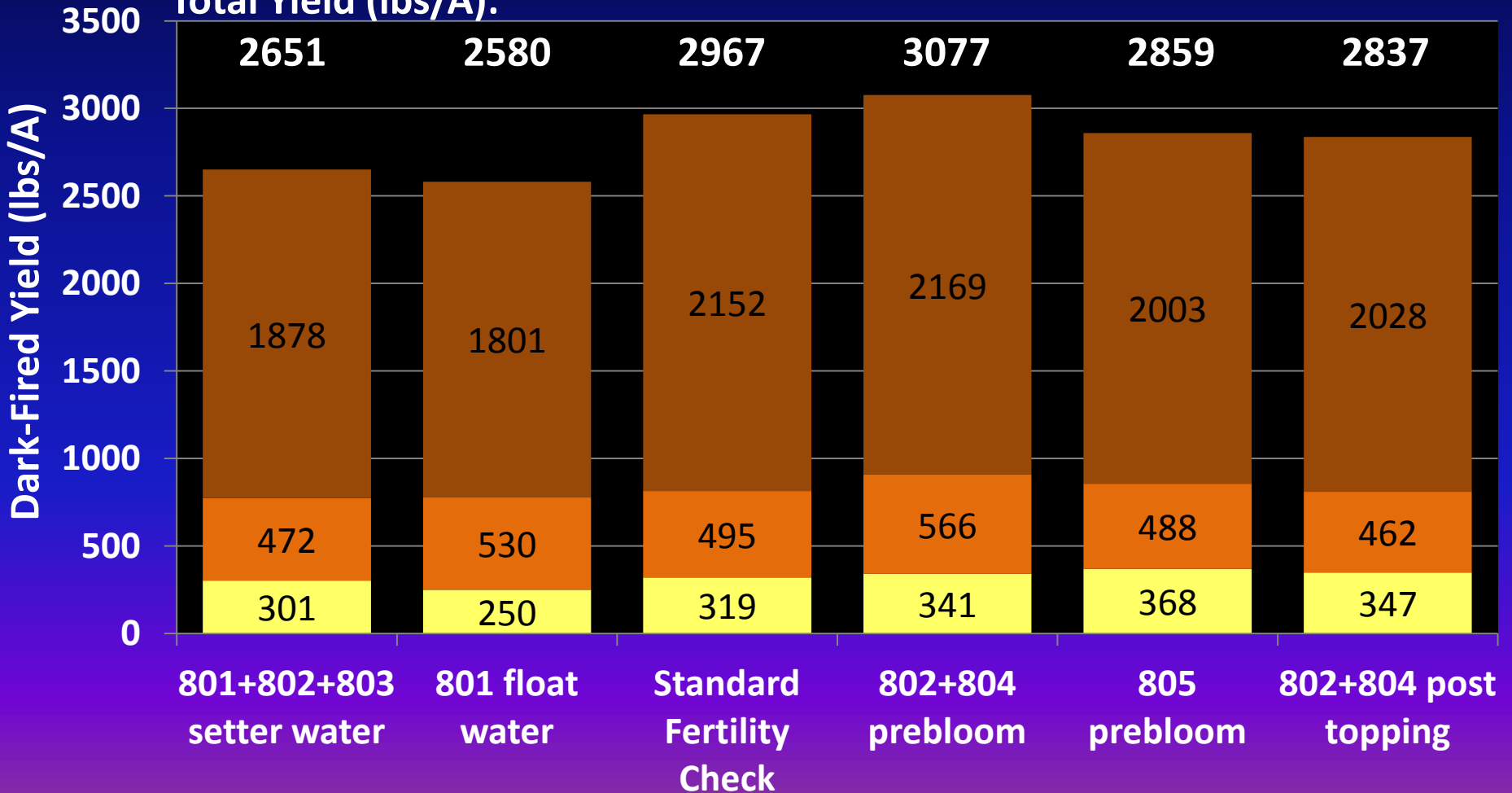
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## MSU West Farm – Murray, KY – Dark-Fired Yield

LSD<sub>0.05</sub> =      72              142              413              504 (total)

                 Lug      Second      Leaf

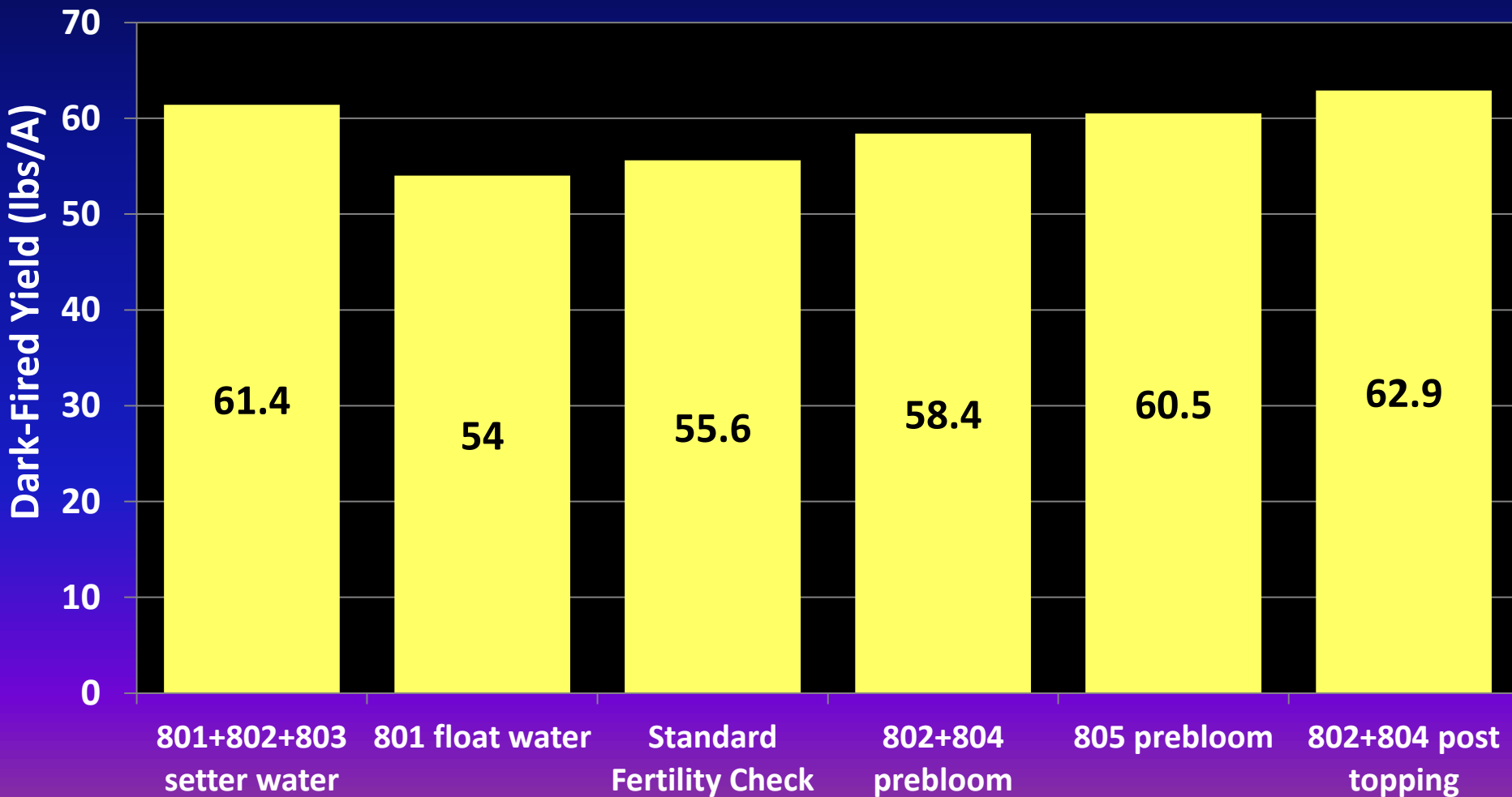
Total Yield (lbs/A):



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## MSU West Farm – Murray, KY – Quality Grade Index

LSD<sub>0.05</sub> = 12.2  
■ Grade Index



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## MSU West Farm – Murray, KY – Data Summary

- Visual differences in early season vigor from float water treatment.
- No obvious vigor differences in other treatments or in any treatment late-season
- No statistically significant differences in total yield or quality grade index in any treatment compared to the standard fertility check.