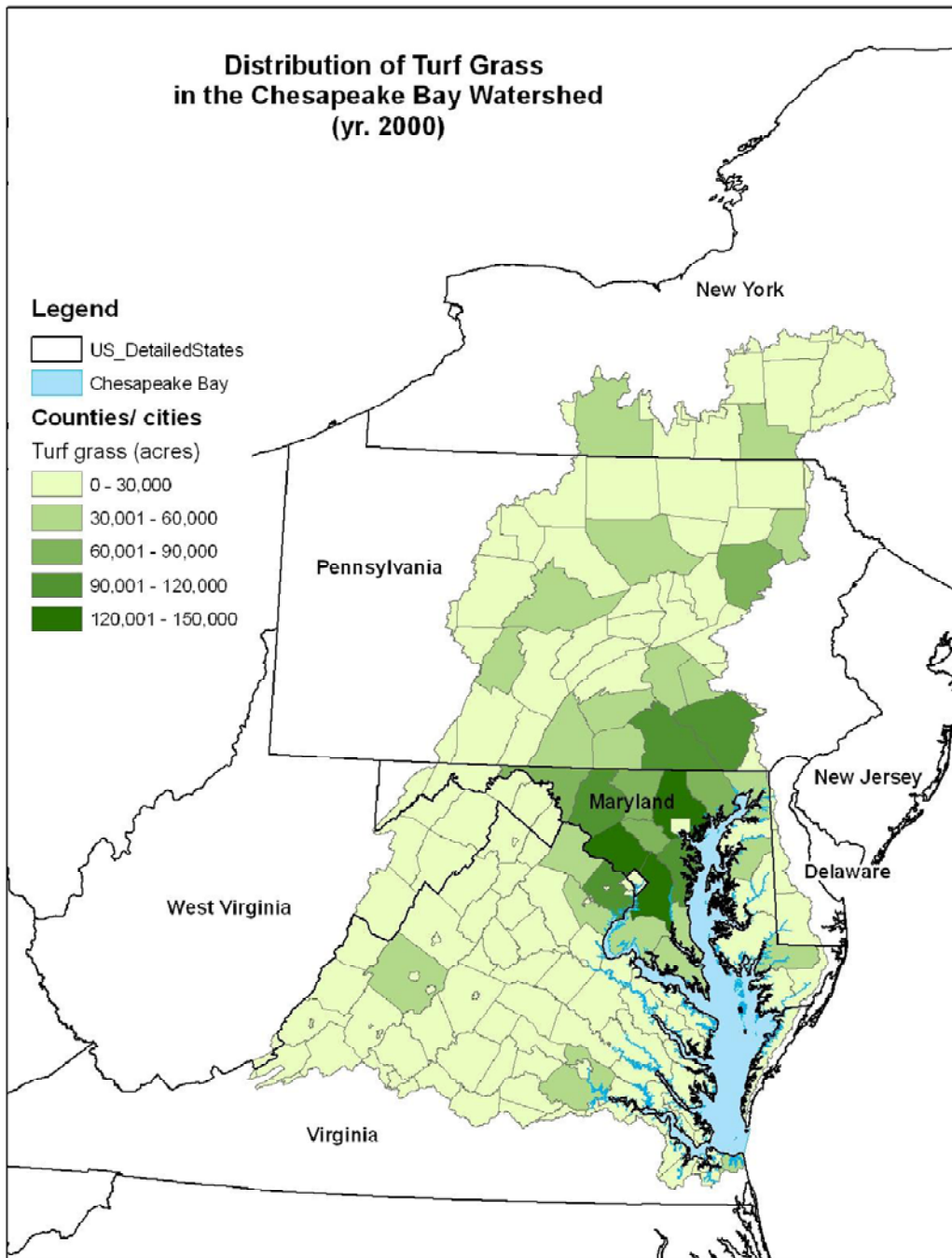


Reduced Nitrogen Inputs by Budgeting Organic Matter with Fertilizer

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President
Nutrients Plus





An Urbanizing Watershed = lots of lawns and impervious surfaces

- Turfgrass is 10% of acres
- Row crops: 10%
- Hay & Pasture: 15%
- Wetlands: 4%

VA DCR lawn fertilizer guidelines allow a max of 5 lbs N/1000 ft² IF 50% or more of applied N is slow-release

P should only be applied if soil test levels indicate a need

Natural Organic Fertilizer Sources

- Allow for the 50% slow-release goal to be achieved, while recycling these residuals
- Reduce leaching and run-off potential
- May have “other” lawn health benefits
 - Increased soil solution auxin for improved rooting
 - Increased suppression of disease
 - Increased CEC

Approach

- Use Nutrient's Plus Excel-based fertilizer program calculator to design seasonal programs for Kentucky bluegrass and tall fescue lawns that:
 - Supply less total N than a synthetic standard program
 - Mix and match Nutrient's Plus natural organic and blended fertilizer products to budget organic matter additions so as to apply: 10, 15, or 20 lbs OM/yr

Examples of Nutrients Plus Fertilizers

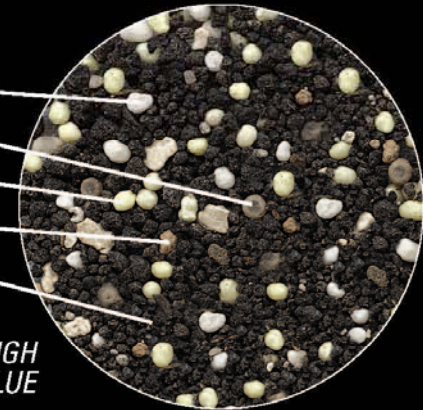
Nutrients PLUS® Fortified Blends for General Turf & Ornamental Areas

NUTRIENTS PLUS #1 SELLER
SCREAMIN' GREEN
16-2-3
WITH **FIVE SOURCES** OF NITROGEN

RELEASE RATES

- Urea / 2-3 weeks
- Amm Sulfate / 3-4 weeks
- SCU / 4-6 weeks
- Nature Pure / 6-10 weeks
- EQ Biosolid / 10+ weeks

*LOW-TECH BREAKTHROUGH
NO FRILLS PRICE • HIGH TECH VALUE*



ACTUAL SIZE, SGN 200

Dynamic Duo (4-3-1)

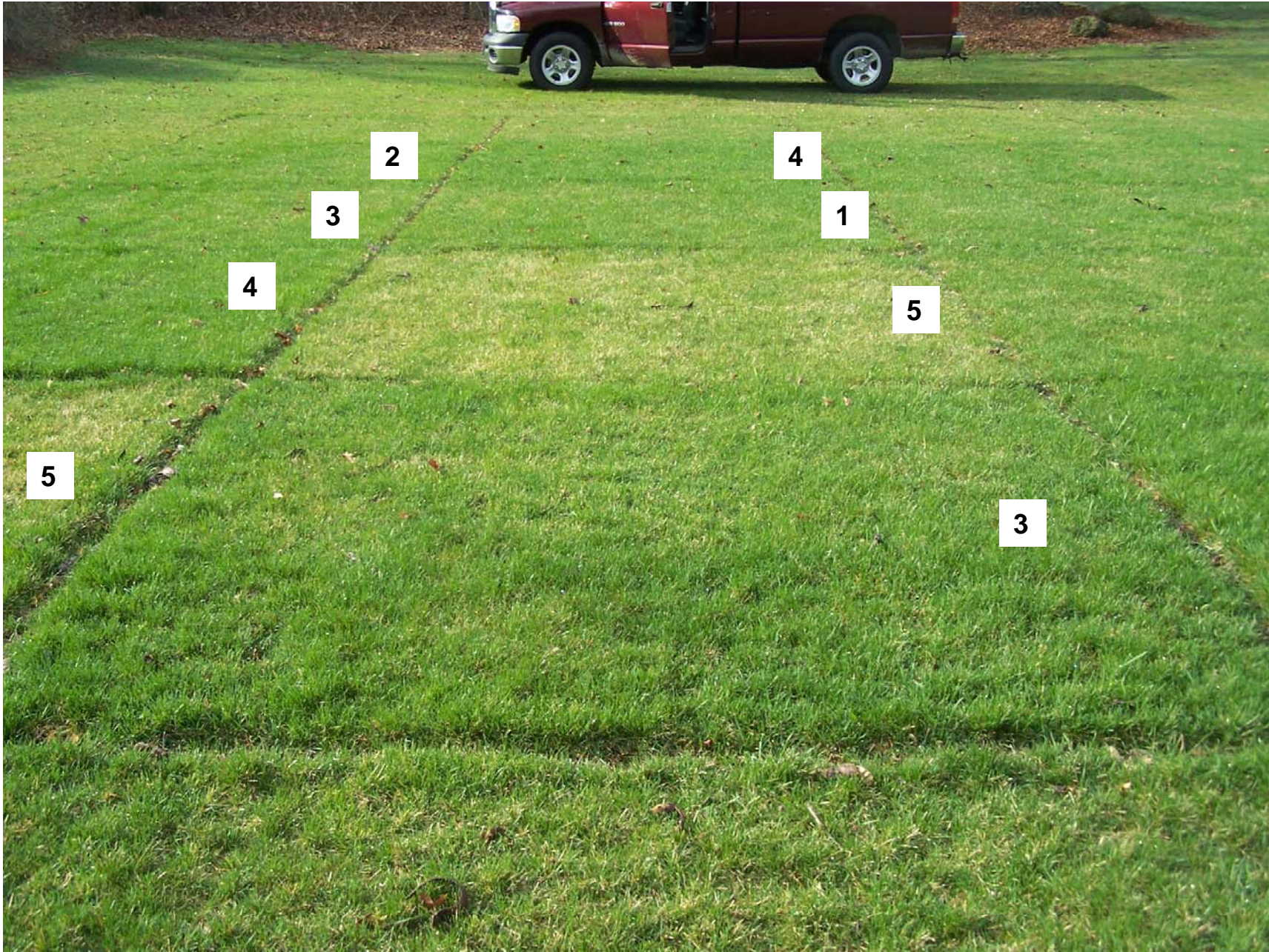
4-3-1 is an all purpose application ideal for delivering high volumes of 2 organic matter sources to the soil. It contains Exceptional Quality Biosolids, created from the valuable 90% WIN (a mostly hot water insoluble nitrogen) and poultry compost from Nature Pure's 50% WIN (a mostly cold water insoluble nitrogen).



Treatment table for TF & KBG trials

	1	2	3	4 35% PCU	5 Check
April	4-4-2 @ 0.7 lb N	4-3-1 @ 1.0 lb N	4-3-1 @ 1.0 lb N	28-5-12 @ 1.0 lb N	0
Sept	20-1-5 @ 0.7 lb N	20-1-5 @ 0.7 lb N	6-2-4 @ 0.7 lb N	28-5-12 @ 1.0 lb N	0
Oct	20-1-5 @ 0.7 lb N	20-1-5 @ 0.7 lb N	20-1-5 @ 0.7 lb N	28-5-12 @ 1.5 lb N	0
Totals	2.1 lb N 10 lb OM	2.4 lb N 15 lb OM	2.4 lb N 20 lb OM	3.5 lb N 0 lb OM	0





March 19, 2009



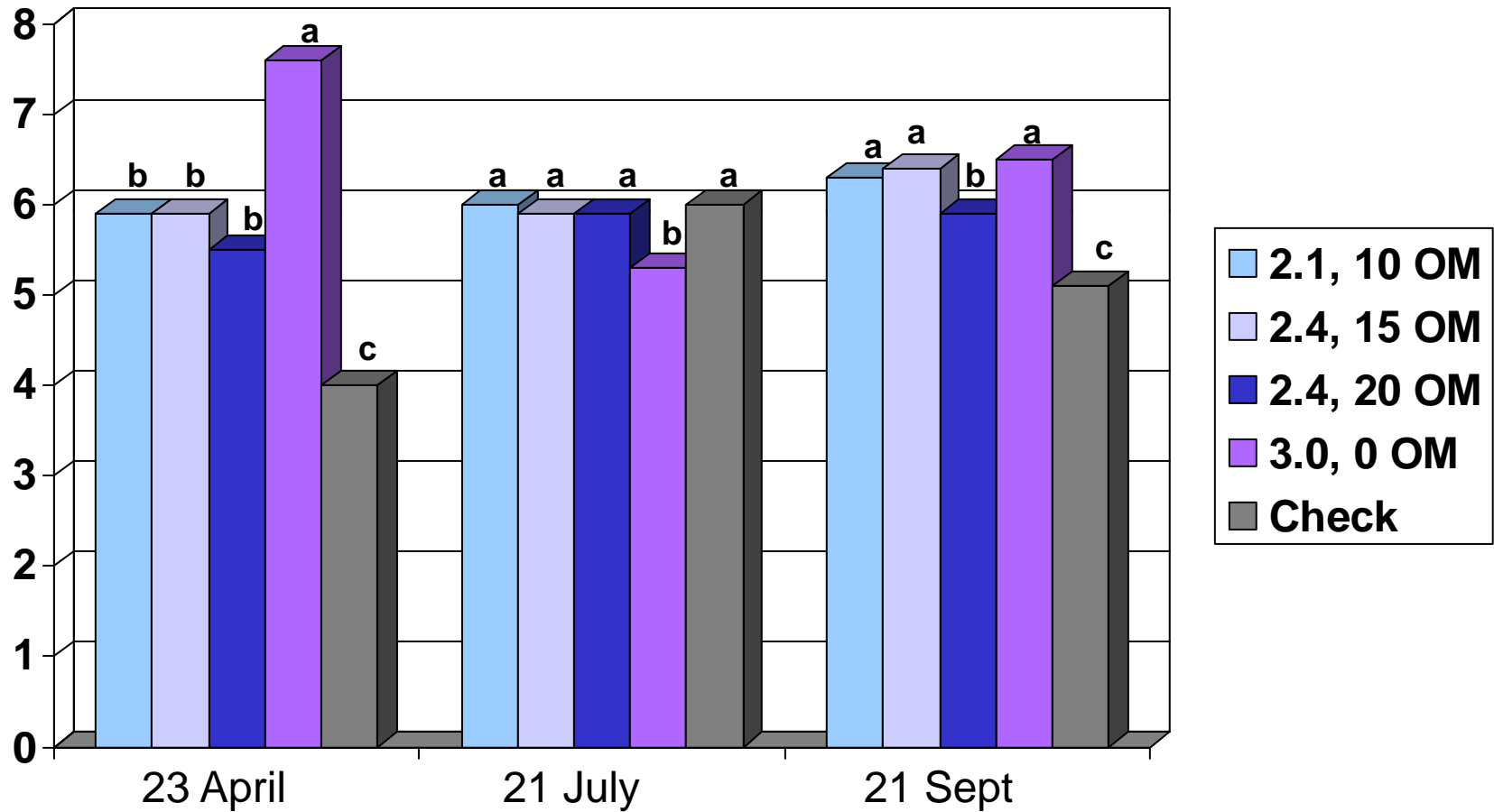


Kentucky bluegrass 2.4 lb vs. 3.5 lb trial

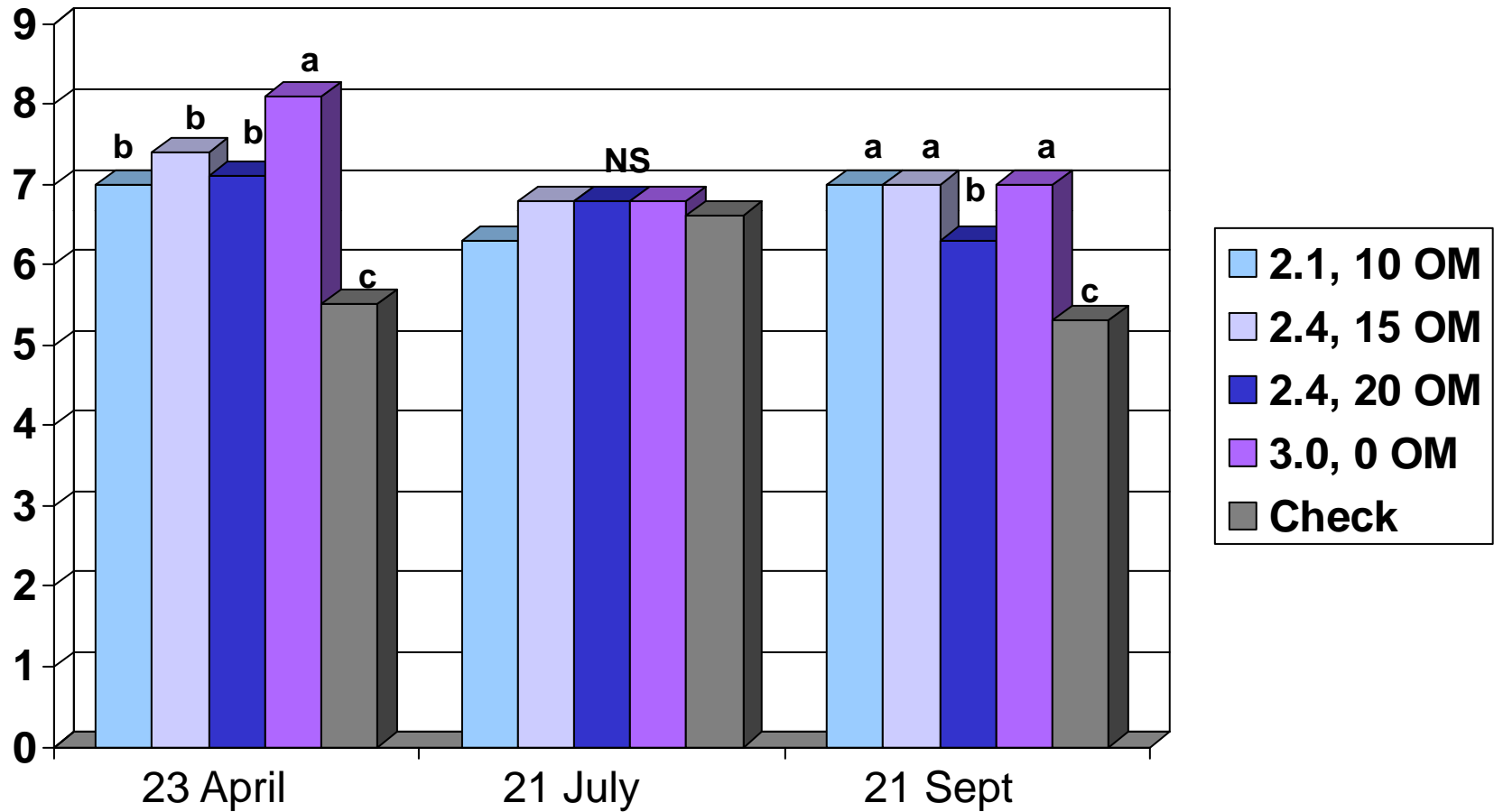


Tall fescue 2.4 lb vs. 3.5 lb trial

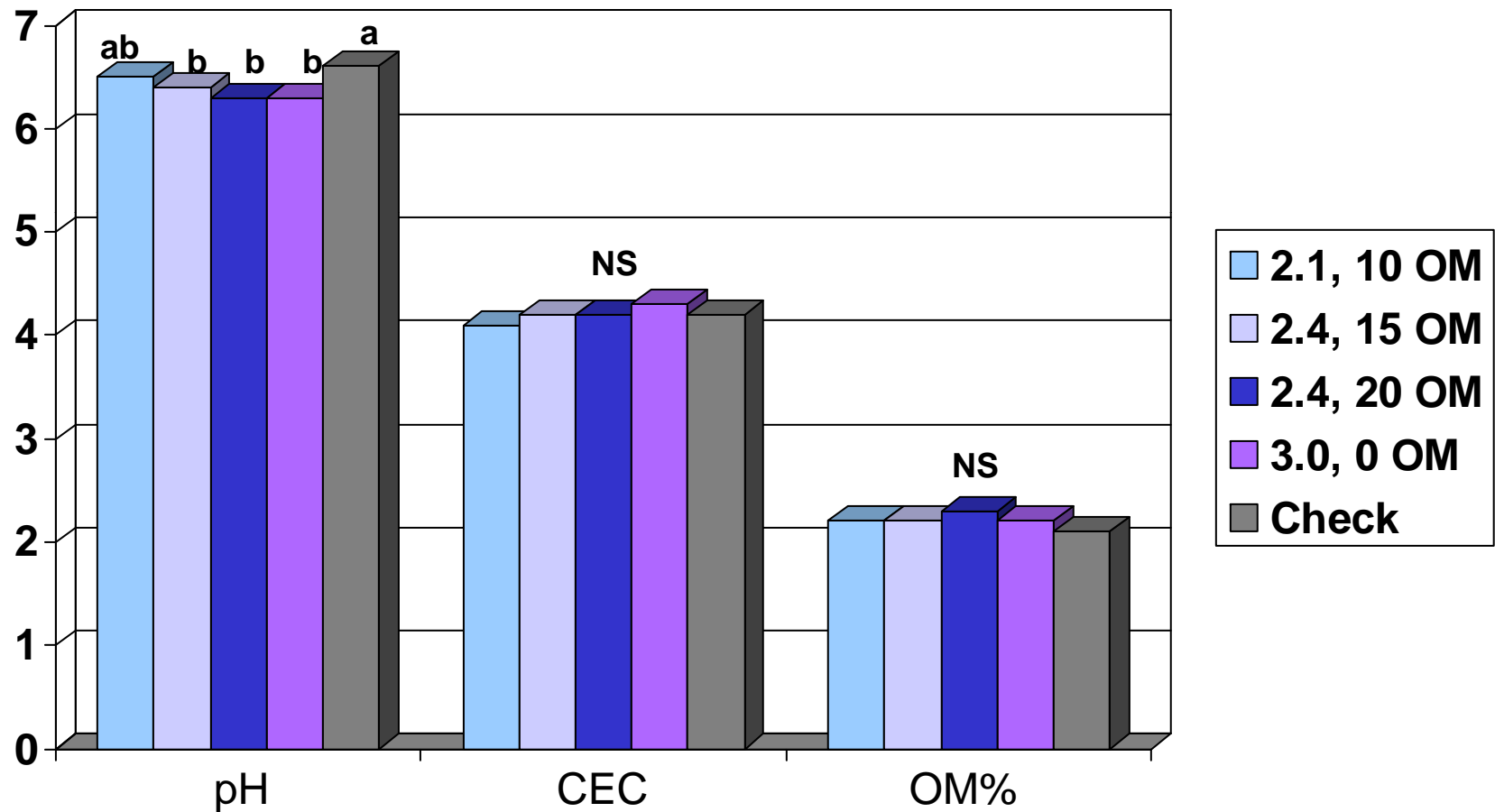
Subjective Color Ratings 2009: bluegrass



Subjective Color Ratings 2009: fescue



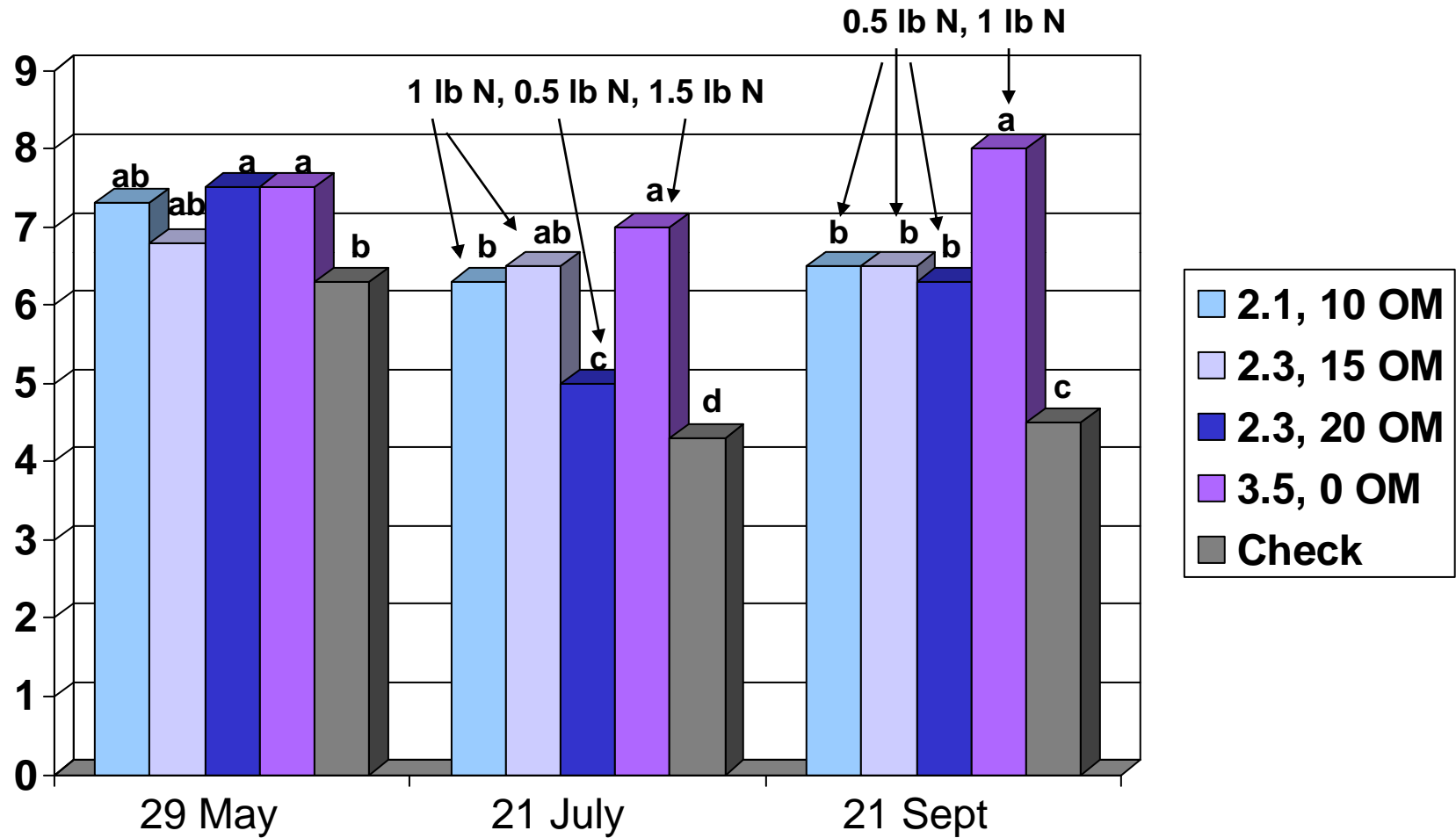
Soil Test Values Sept 2009: bluegrass



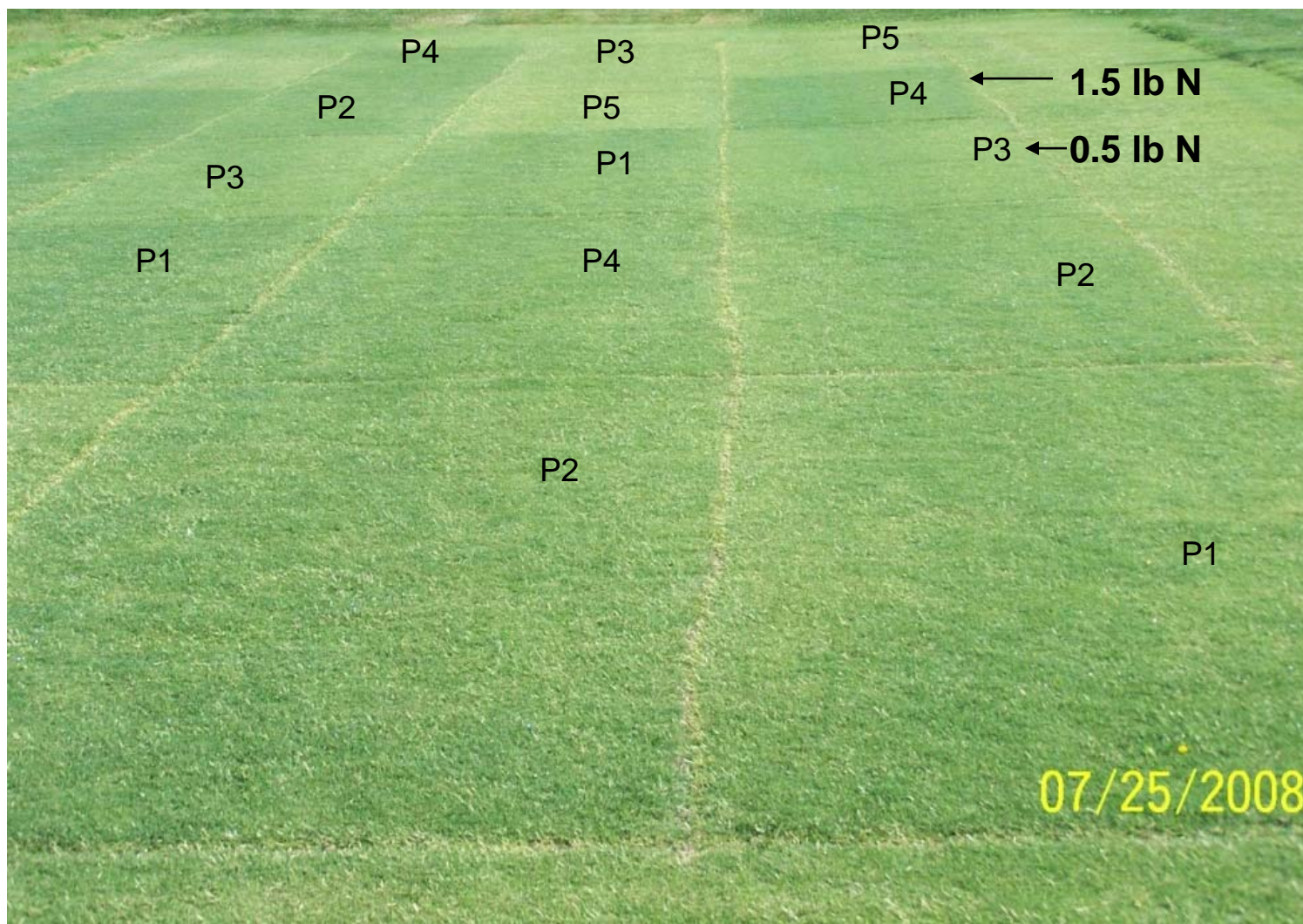
No macro- or micro-nutrient deficiencies; sampled to 5 cm depth



Subjective Color Ratings 2009: bermuda



Nutrients Plus fertilizer program trial on 419 Bermuda, July 25



N-Plus Program 1
2 lb N; 10 lb OM

Dollar Spot on KBG

N-Plus Program 3
2.5 lb N; 20 lb OM

08/20/

08/20/2009

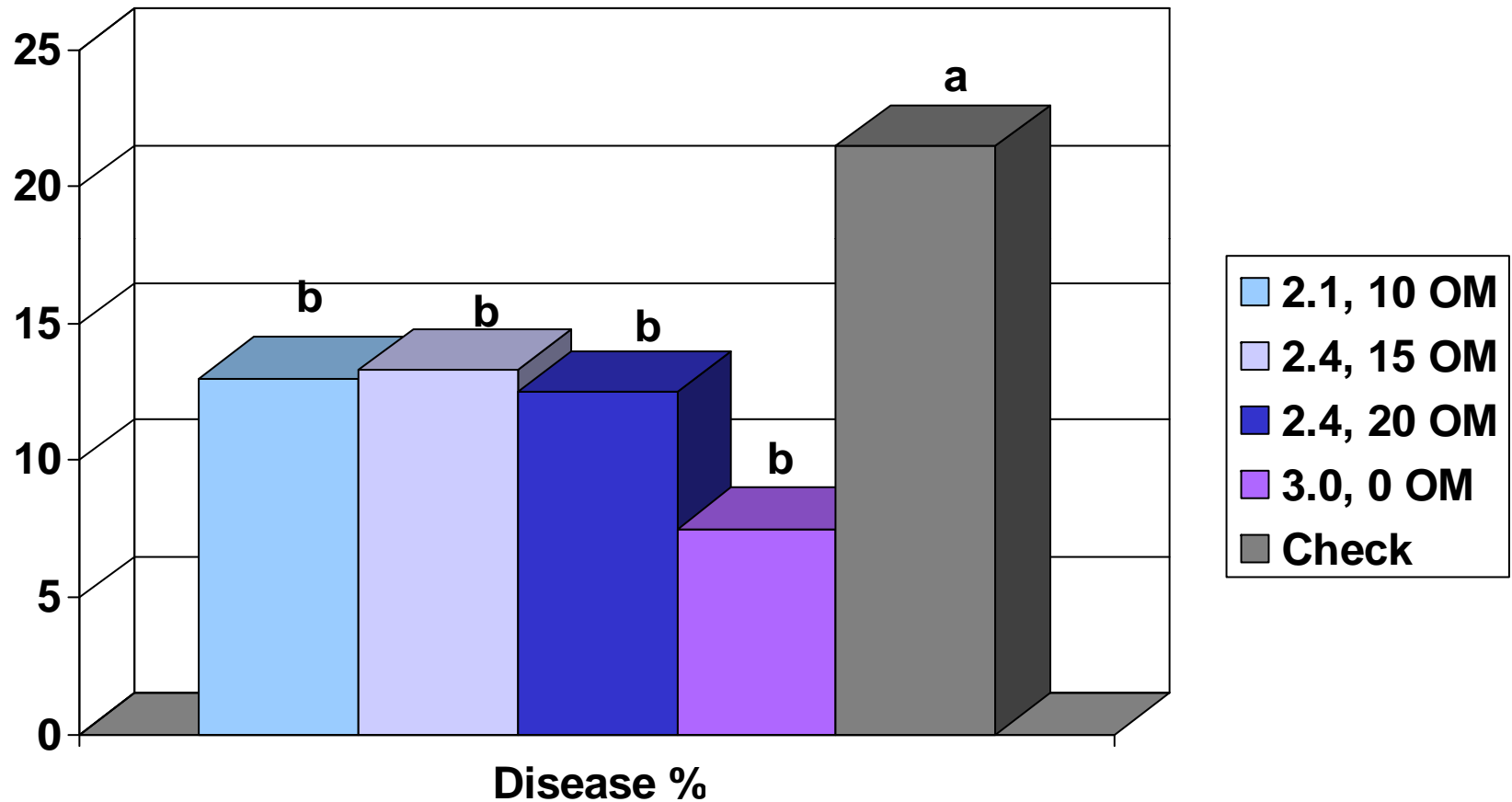
LescoCote 28-5-12
3.5 lb N; 0 lb OM

UNTREATED

08/20/

08/20/2009

Dollar spot on Kentucky bluegrass: Aug 09



Summary

- For cool-season lawns applying N-Plus ferters at 0.6 to 0.9 lbs N/M less than standard has provided commercially acceptable color & quality, plus equivalent disease resistance for 2 years with:
 - No significant changes in surface (0-2”) soil test values
- Less N from N-Plus fert programs on bermudagrass has not been adequate.
- Budgeting organic matter (0, 10, 15, 20 lbs/M) has not shown any real differences to date.

Thanks to The Fertilizer Institute!

