



“No P on My Lawn”: Educating and Engaging the Public to Reduce Nutrient Runoff

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*Funding: Lexington-Fayette Urban County Government
Stormwater Quality Projects Incentive Grant Program*



Nitrogen and phosphorus pollution

GROWING PROBLEM

PERVASIVE

PERSISTENT

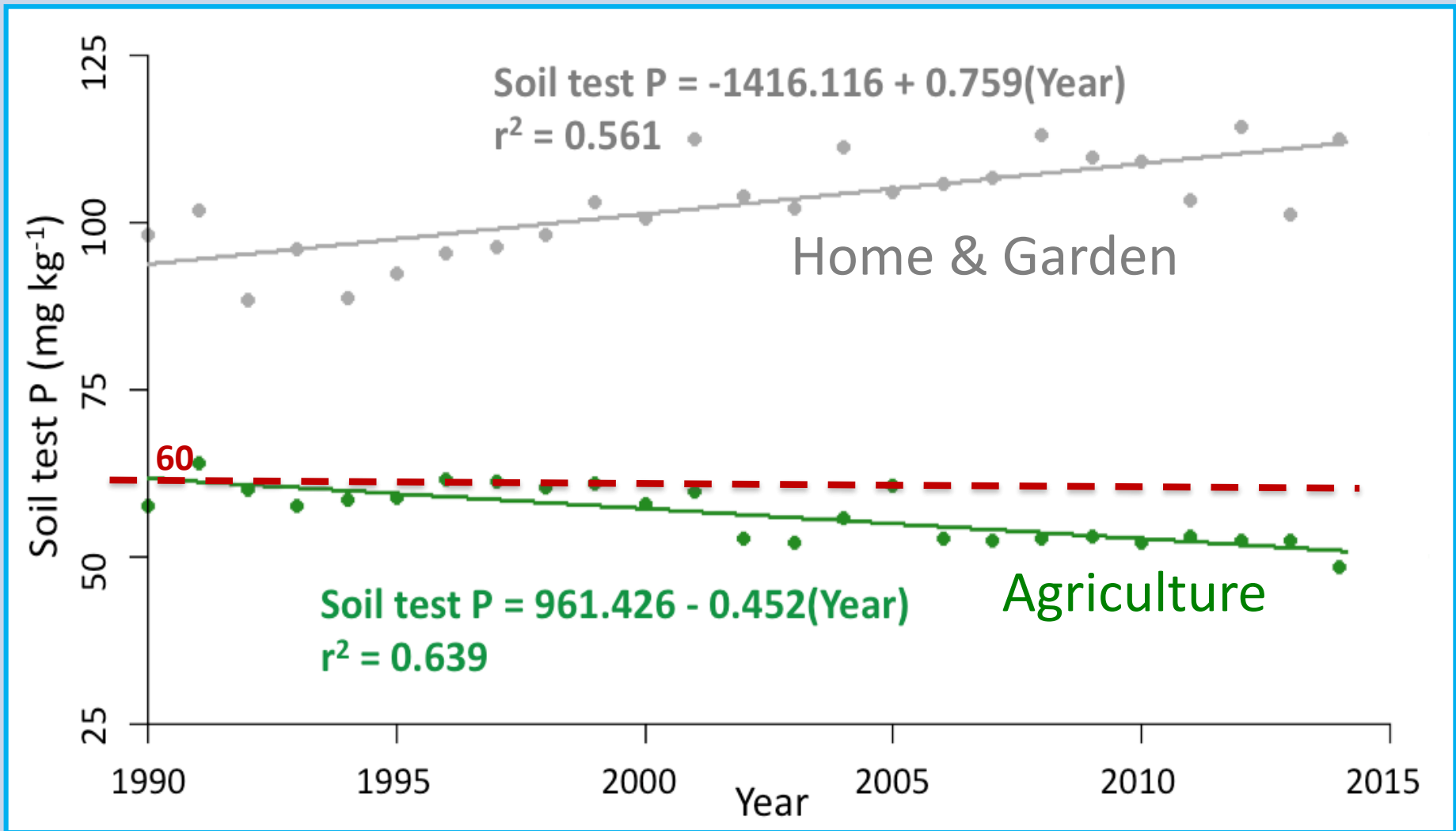
**Bay foundation grades Chesapeake health
a C-minus, its highest mark since 1998**

Baltimore Sun Article, Jan 5, 2017

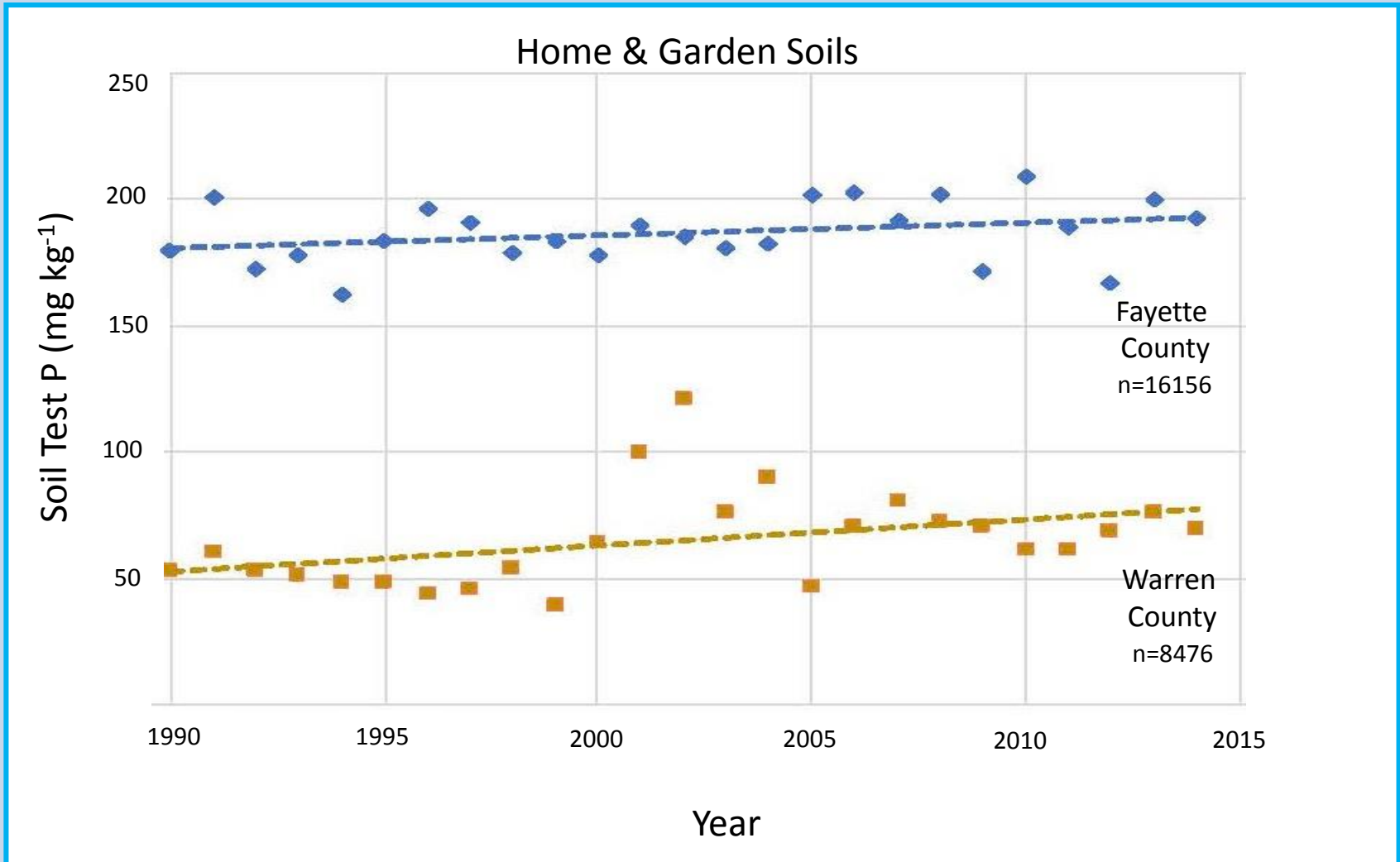
Nutrients are an Urban Problem

- **At levels above 60 mg/kg, P may become soluble (D'Angelo, unpublished data) and at increased risk for mobilization**
- **Majority of P inputs to watersheds are lost through stormwater runoff (Hobbie et al., 2017)**
- **Total P loads in urban areas may exceed agricultural runoff (Ghane et al., 2016)**

Kentucky Soil Test: Phosphorus over 25 years



Soil Test Phosphorus: Fayette vs. Warren County



Habits of Homeowners



- How are they selecting and applying lawn care products?
- If they employ a contractor, how are they selecting them and engaging with them?

It's a Matter of Education

Utilizing Cooperative Extension Service

CES has over 100 years years of experience in **public education and public involvement**

- Effective in Ag Communities
- Existing community connections
- Extensive network of available resources – from research faculty, diagnostic facilities, trained volunteers
- Every Kentucky county has one



Target Audience

“2.35 Fayette County residents occupying 89,122 single family dwellings and maintaining a lawn or flower/garden bed”

Participant Objectives:

- Learn about major nutrients and their sources
- Understand the implications of excess nutrients
- Know how to assess and manage nutrients
- Be informed



Program Strategy

Soil Tests:

Offer grant funded testing and sample collection assistance

Surveys:

Assess current application practices and evaluate behavioral change

Sustainable

Enlist Master Gardeners in a “train the trainer” approach (statewide, 1500 strong)

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Promote:

Disseminate through neighborhood associations and community groups

Collaborate with other educational groups

Partner:



Program Content

No P On My Lawn!
Managing Nutrients on Urban Landscapes

The Nutrient Conundrum
Natural & Necessary
Nitrogen (N), Phosphorus (P), and Potassium (K) are essential for soil health, plant growth and healthy aquatic systems

The Problem!
Too much of a good thing.

Eutrophication
Excess leads to rapid accumulation of algae in waterways

- Decreases Oxygen
- Limits Light
- Produces Toxins

Stormwater Transports Nutrients

Common P Sources

The Case in Kentucky – too much P

Compared to agricultural lands, home & garden soil P levels are:

- Higher
- Increasing
- Above recommended application levels

Inventory Soil Test Phosphorus over 25 years

25 year soil test data for P show that most Fayette County home & garden soils pose a high environmental risk.

Collecting the Evidence – soil tests

Chemical analysis of your soil
Provides fertilizer recommendation

Nutrient Management – 5Rs

Right Source: Know what's in the bag!

Right Ratio: Apply the right amount of nutrients to maintain healthy plants – Do NOT over-fertilize especially for most trees!

Right Time:

Right Place: Avoid impervious surfaces and areas near water

Right Price: Don't pay for what you don't need.



How to Prune a Tree?

Purpose: Healthy trees make our city, our neighborhood, and our lives a better place. The health of our trees is directly related to the health of our communities. We can give our trees the best care possible by knowing the right way to care for them.

Tree Care

Canopy

Root

Signs

- Your position will determine...
- Start with the "big picture"...
- Consider the size of the tree...
- Just like us, trees can be...
- Some tree factors will be...
- and best left to be...



Why didn't I know
this?



Plan and Projections

- Pilot in Fayette County - develop, launch, refine the program (18 months)
- Measured results - # participants and # soil tests
- Survey data – provide insight into current homeowner practices and behavior change
- Informed public will result in reduced nutrient loading in urban areas
- Distribute to MS4s end of 2018

Questions?

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