

# The Application of Nutrient Management Science To Policy in Maryland

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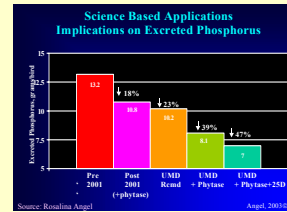
## Background

In 1998, the Maryland General Assembly, at the request of the Governor, passed The Water Quality Improvement Act (WQIA). This was the policy response to an outbreak of the harmful algae *Pfiesteria piscicida* in 1997 on the agriculturally dominated lower Eastern Shore. The WQIA required all farmers with gross incomes over \$2,500 per year to have, and implement, a nutrient management plan (NMP) by 2002. Farmers using only inorganic fertilizer had to have nitrogen (N) and phosphorus (P) based NMPs, whereas farmers using organic sources have until 2005 to address P in their NMPs.

The College of Agriculture and Natural Resources has provided support to Maryland on Nutrient Management for more than 15 years. Nutrient Management Advisors are in each County Extension Office. We assist with certification test development and training, developed the P Site Index and NMP plan software, and provided technical support during development of the WQIA Regulations. College Faculty also provided science briefing to the executive and legislative branches during development of the WQIA. However, in 2003, we had to define our role as science-based researchers and educators during a political policy debate over revisions to the WQIA. Research and Extension worked together to provide current, objective research and science information on all aspects of nutrient management for use in policy decision making.

## The Role of Science in the WQIA Policy Debate

Many of the issues being raised regarding the WQIA were more political and policy than science based. However, the technical provisions of the law, including N and P based nutrient management, were science-based and there was interest in making revisions consistent with current science. It was also important that recent research in soils, animal nutrition and waste management and treatment be considered as they could influence the need for change. The College's Chesapeake Bay Coordinator briefed the returning Secretary of Agriculture on recent advances in nutrient science. The Secretary then requested the College to provide a full day briefing by research and extension faculty for him and his senior staff. At that briefing, it was apparent there was much new knowledge the broad spectrum of people attending the Nutrient Management Summit and recommending changes to the WQIA needed to consider. A Nutrient Science Forum, directed at the 200 summit participants, was planned jointly by the College and the Department of Agriculture. It was held before the summit and attracted about 160 people, most of whom subsequently attended the forum. Participants indicated that the forum provided much needed understanding of technical advances prior to the summit.

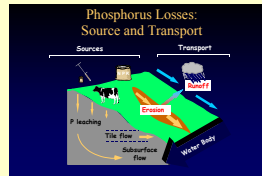


## Major Changes Proposed to the WQIA by Governor

- Address "right of entry" concerns but maintain access to farms for plan review (legislative change).
- Assure quality of all NMPs by randomly reviewing plans from all consultants, not just cost-shared plans (administrative change).
- Increase flexibility in reporting by requiring primarily end of season summaries after initial NMP development (legislative change).
- Develop sub-categories of certification for agronomic, greenhouse, nursery etc. consultants.
- Use Cooperative Extension training and certification program to allow farmers to develop plans for their farms (administrative change).
- Provide enhanced technical and educational support for plan development and implementation, working with Maryland Cooperative Extension (administrative change).
- Make availability of any State cost-share funding contingent upon meeting nutrient management requirements (administrative change).

## DISCUSSION TOPICS NUTRIENT MANAGEMENT RESEARCH FORUM July 17, 2003

- Coastal watershed nutrient enrichment
- Agronomy and soil fertility
  - Management of nitrogen
  - Management of phosphorus
  - Nutrient Management software
- Nutrient transport and cover crops
- Litter and soil amendments
- Animal waste management systems
- Animal nutrition
  - Poultry
  - Dairy
- Alternative uses of animal waste



## Calls for Revision of the WQIA

The development of regulations to implement the WQIA took longer than expected and were viewed by farmers as being complex and burdensome, with substantial time and paperwork required. The deadline for plan submission in 2002 found about half of the acreage with submitted plans, one quarter with a filed "request for delay" form, and one quarter not reporting. The farm community called for repeal or revision of the WQIA and the State Department of Agriculture delayed implementation or enforcement. A new governor took office in 2003 and had pledged to hold a nutrient management summit and subsequently revise the WQIA.



Source: Robert Hill



On August 5, 2003, the Governor and Secretary of Agriculture convened the Summit. The Associate Dean for Research followed the Governor as the only two plenary speakers and gave an overview of the current state of nutrient management science based on the Forum. Each Summit attendee received a compact disk containing all of the presentations from the Forum. The primary role for College faculty was to serve as technical resource persons at the breakout sessions and to be available to the media for science interviews. The summit was deemed a success at allowing open discussions of issues and opportunities to revise the WQIA. There were also frequent comments supporting the need to remain science-based and applauding the College's efforts to provide science support.



Governor Robert Ehrlich reminded Nutrient Management Summit participants to base their actions on sound science before Assoc. Dean Scott Angle provided an overview of nutrient science

## Outcome of Summit

The Summit resulted in more than 100 recommendations for changes to the WQIA. These ranged from complete repeal, to making it more complex. The Governor, viewed as a friend of agriculture, had said that "nutrient management is here to stay", so most comments focused on refining the process. The most common suggestions were to reduce paperwork, streamline processes and reduce or eliminate enforcement and penalties. A "right of entry" clause in the law was extremely distasteful to many farmers and nearly all participants supported its removal or modification. There was little questioning of the science base for the law or the need to manage both N and P, particularly from biosolids or manures.



## Summary: Science in Nutrient Management Policy in Maryland

Based on current science, nitrogen and phosphorus based nutrient management should continue. Risk assessment tools (e.g. P Site Index) should be used to determine when application rates of organic nutrient sources should be limited based on crop P removal. Recent research on the P Site Index, animal nutrition, waste treatment and alternative uses provides tools to reduce the economic impacts of implementing the WQIA.

- Land Grant University (LGU) research and extension provided updated, objective science support during debate over revision of WQIA.
- LGU leadership of Science Forum and faculty serving as technical resources at NM Summit was helpful to executive branch, farmers and environmentalists.
- Breadth of research and knowledge at LGU on nutrient science subjects impressed state leaders.
- The Forum and Summit provided good visibility for faculty and College as objective science-based resources.
- This activity integrated Research and Extension to deliver current, relevant, science in an objective manner on a contentious policy issue.