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(FORM UPDATED: 08/11/2010)

WISCONSIN STATE LEGISLATURE ...
PUBLIC HEARING - COMMITTEE RECORDS

2011-12
(session year)

Assembly
(Assembly, Senate or Joint)

Committee on Natural Resources...

COMMITTEE NOTICES ...

- Committee Reports ... **CR**
- Executive Sessions ... **ES**
- Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- Appointments ... **Appt** (w/Record of Comm. Proceedings)
- Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)
- Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
  (**ab** = Assembly Bill) (**ar** = Assembly Resolution) (**ajr** = Assembly Joint Resolution)
  (**sb** = Senate Bill) (**sr** = Senate Resolution) (**sjr** = Senate Joint Resolution)
- Miscellaneous ... **Misc**

* Contents organized for archiving by: Stefanie Rose (LRB) (August 2013)

Assembly

Record of Committee Proceedings

Committee on Natural Resources

Assembly Bill 165

Relating to: the display of turf fertilizer containing phosphorus.

By Representatives Knilans, Kestell, Rivard, LeMahieu, Petryk, Brooks, Williams, Thiesfeldt and Spanbauer; cosponsored by Senators Wanggaard, Galloway and Grothman.

May 31, 2011 Referred to Committee on Natural Resources.

September 14, 2011 **PUBLIC HEARING HELD**

Present:	(16)	Representatives Mursau, Rivard, Williams, Kleefisch, Nerison, Severson, Steineke, Tiffany, Stroebel, Litjens, Mason, Molepske Jr, Danou, Clark, Milroy and Hulsey.
Absent:	(0)	None.
Excused:	(0)	None.

Appearances For

- Joe Knilans, Madison — Representative, 44th Assembly District
- Brian Swingle, Greenfield — Wisconsin Green Industry Federation
- Amy Winters, Madison — Scotts Miracle Grow

Appearances Against

- George Meyer, Madison — Wisconsin Wildlife Federation
- Melissa Malott, Madison — Clean Wisconsin
- Caryl Terrell, Madison — Sierra Club - John Muir Chapter

Appearances for Information Only

- None.

Registrations For

- Scott Manley, Madison — Wisconsin Manufacturers and Commerce
- Amy Shirley, Madison — Wisconsin Retail Council
- Scott Stenger, Madison — Alliance of Wisconsin Retailers
- George Klaetsch, Madison — Wisocnsin Agribusiness Council

Registrations Against

- Terese Berceau, Madison — Representative, 76th Assembly District
- Jennifer Giegerich, Madison — Wisconsin League of Conservation Voters
- John Keckhaver, Madison — Wisconsin Association of Lakes
- Denny Caneff, Madison — River Alliance of Wisconsin
- Mickey Beil, Madison — Dane County
- Caryl Terrell, Madison — League of Women Voters of Wisconsin

Registrations for Information Only

- None.

Tim Gary
Committee Clerk

Assembly

Record of Committee Proceedings

Committee on Natural Resources

Assembly Bill 165

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- Mickey Beil, Madison — Dane County
- Caryl Terrell, Madison — League of Women Voters of Wisconsin

Registrations for Information Only

- None.

September 28, 2011 **EXECUTIVE SESSION HELD**

Present:	(15)	Representatives Mursau, Williams, Kleefisch, Nerison, Severson, Steineke, Tiffany, Stroebel, Litjens, Mason, Molepske Jr, Danou, Clark, Milroy and Hulsey.
Absent:	(1)	Representative Rivard.
Excused:	(0)	None.

Moved by Representative Williams, seconded by Representative Kleefisch that **Assembly Substitute Amendment 1** be recommended for adoption.

Ayes:	(13)	Representatives Mursau, Williams, Kleefisch, Nerison, Severson, Steineke, Tiffany, Stroebel, Litjens, Mason, Molepske Jr, Danou and Clark.
Noes:	(2)	Representatives Milroy and Hulsey.
Absent:	(1)	Representative Rivard.

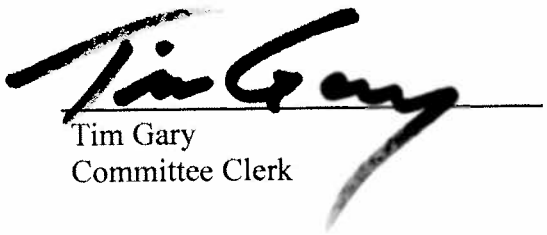
ASSEMBLY SUBSTITUTE AMENDMENT 1 ADOPTION RECOMMENDED, Ayes 13, Noes 2

Moved by Representative Williams, seconded by Representative Kleefisch that **Assembly Bill 165** be recommended for passage as amended.

Ayes:	(11)	Representatives Mursau, Williams, Kleefisch, Nerison, Severson, Steineke, Tiffany, Stroebel, Litjens, Molepske Jr and Danou.
Noes:	(4)	Representatives Mason, Clark, Milroy and Hulsey.

Absent: (1) Representative Rivard.

PASSAGE AS AMENDED RECOMMENDED, Ayes 11, Noes 4



Tim Gary
Committee Clerk

Vote Record
Committee on Natural Resources

Date: September 28, 2011
Moved by: Williams Seconded by: Kleefisch

AB 165 SB_____ Clearinghouse Rule_____
AJR_____ SJR_____ Appointment_____
AR_____ SR_____ Other_____

A/S Amdt _____
A/S Amdt _____ to A/S Amdt _____
A Sub Amdt 1
A/S Amdt _____ to A/S Sub Amdt _____
A/S Amdt _____ to A/S Amdt _____ to A/S Sub Amdt _____

Be recommended for:
☐ Passage ☑ Adoption ☐ Confirmation ☐ Concurrence ☐ Indefinite Postponement
☐ Introduction ☐ Rejection ☐ Tabling ☐ Nonconcurrence

Committee Member	Aye	No	Absent	Not Voting
Representative Jeffrey Mursau, Chair	☑	☐	☐	☐
Representative Roger Rivard	☐	☐	☑	☐
Representative Mary Williams	☑	☐	☐	☐
Representative Joel Kleefisch	☑	☐	☐	☐
Representative Lee Nerison	☑	☐	☐	☐
Representative Erik Severson	☑	☐	☐	☐
Representative Jim Steineke	☑	☐	☐	☐
Representative Thomas Tiffany	☑	☐	☐	☐
Representative Duey Stroebel	☑	☐	☐	☐
Representative Michelle Litjens	☑	☐	☐	☐
Representative Cory Mason	☑	☐	☐	☐
Representative Louis Molepske Jr	☑	☐	☐	☐
Representative Chris Danou	☑	☐	☐	☐
Representative Fred Clark	☑	☐	☐	☐
Representative Nick Milroy	☐	☑	☐	☐
Representative Brett Hulsey	☐	☑	☐	☐
Totals:	13	2	1	____

☑ Motion Carried ☐ Motion Failed

Vote Record
Committee on Natural Resources

Date: September 28, 2011
Moved by: Williams Seconded by: Kleefisch

AB 165 SB_____ Clearinghouse Rule_____
AJR_____ SJR_____ Appointment_____
AR_____ SR_____ Other_____

A/S Amdt _____
A/S Amdt _____ to A/S Amdt _____
A Sub Amdt _____
A/S Amdt _____ to A/S Sub Amdt _____
A/S Amdt _____ to A/S Amdt _____ to A/S Sub Amdt _____

Be recommended for:
☑ Passage ☐ Adoption ☐ Confirmation ☐ Concurrence ☐ Indefinite Postponement
☐ Introduction ☐ Rejection ☐ Tabling ☐ Nonconcurrence

Committee Member	Aye	No	Absent	Not Voting
Representative Jeffrey Mursau, Chair	☐	☐	☐	☐
Representative Roger Rivard	☐	☐	☑	☐
Representative Mary Williams	☑	☐	☐	☐
Representative Joel Kleefisch	☑	☐	☐	☐
Representative Lee Nerison	☑	☐	☐	☐
Representative Erik Severson	☑	☐	☐	☐
Representative Jim Steineke	☑	☐	☐	☐
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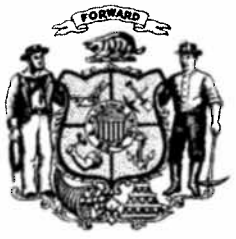
Representative Michelle Litjens	☑	☐	☐	☐
Representative Cory Mason	☐	☑	☐	☐
Representative Louis Molepske Jr	☑	☐	☐	☐
Representative Chris Danou	☑	☐	☐	☐
Representative Fred Clark	☐	☑	☐	☐
Representative Nick Milroy	☐	☑	☐	☐
Representative Brett Hulsey	☐	☑	☐	☐
Totals:	11	4	1	

☑ Motion Carried ☐ Motion Failed


WISCONSIN STATE LEGISLATURE


FORWARD

cleanwisconsin

your environmental voice since 1970

Assembly Bill 165 Testimony
Melissa Malott, Water Program Director
Clean Wisconsin

Assembly Committee on Natural Resources
September 14, 2011

Clean Wisconsin is the largest statewide environmental organization, and was founded as Wisconsin's Environmental Decade with thousands of members across the state. We focus on clean air, clean energy and clean water issues, and celebrated our 40th anniversary last year.

Clean Wisconsin is opposed to AB 165, which would allow phosphorus fertilizer to be used by consumers in a way that is unhelpful for lawn care and harmful for our state's waterways. We are very concerned about the implications of this bill for our lakes and rivers, our economy, and public health.

Phosphorus pollution threatens 40% of Wisconsin's rivers and 90% of our lakes. Phosphorus is fuel for plants, and when there is too much phosphorus in waterways, it fuels enormous amounts of algae. One pound of phosphorus can create 500 pounds of algae. Algae blooms can be toxic, and threaten public health, our economy, and ecosystems that support fish and other aquatic life.

Excess phosphorus and algae blooms threaten ecosystems necessary for fish and other aquatic life. Dying and decaying algae blooms absorb oxygen out of the water, which impacts what kind of fish can live in those waters. Without clean, oxygen-rich waters, many of our popular sport fish cannot survive. Also, algae blooms tend to grow in slower-moving waters, including shorelines, where the vast majority of aquatic species are born and develop. Unless we take action, phosphorus-fueled algae blooms will mutate our waterways from sport-fishing havens to sluggish, muddy carp pools.

Phosphorus-fueled algae blooms cost Wisconsin hundreds of millions of dollars per year in lost tourism and recreational business, lost property values, and clean up and restoration costs. Closed beaches and lost fishing days cost our state millions of dollars per year because people are not here to spend money on food and lodging, and buy Wisconsin products. The Ford Ironman brings $2.4 million to Dane County in one weekend, and won't be here if our lakes are too filled with phosphorus-fueled algae blooms. Menomonee, WI, lost its triathlon because of phosphorus-fueled algae blooms.

Phosphorus-fueled algae blooms increasingly threaten public health. We've all heard the warnings about dogs getting sick from swimming in algae blooms, and we know that people can get sick from touching the water. However, increasingly in the last few years, people have

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become sick from the off-gassing of algae blooms, and recent studies confirm that algae blooms emit toxins into the air that can harm people.

Preventing excessive phosphorus pollution is important, and the phosphorus lawn fertilizer ban prevents a meaningful amount of phosphorus pollution from getting into our waters. For our urban lakes especially, the phosphorus lawn fertilizer ban significantly reduces the amount of phosphorus runoff. Moreover, we can all agree that phosphorus is not necessary in the overwhelming majority of Wisconsin lawns – and the display ban is the cornerstone of preventing the unnecessary use of these fertilizers.

For all of these reasons, Clean Wisconsin supported the original phosphorus lawn fertilizer bill. It was a bipartisan compromise, provided flexibility to retailers, and effectively prevented the unnecessary and harmful use of phosphorus fertilizer. Bans like ours that have been in place for a couple years show that it makes a difference in water quality, while allowing people to maintain healthy lawns. Minnesota, which imposed a similar ban in 2005, has seen significant reductions in the amounts of phosphorus-containing fertilizers being used.

Clean lakes and rivers are what Wisconsin is known for. Protecting our clean water by preventing phosphorus-fueled algae blooms is essential to our economy and our quality of life. For these reasons, I urge you to oppose AB 165.

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FORWARD
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WMC

WISCONSIN'S BUSINESS VOICE SINCE 1911

TO: Members, Assembly Committee on Natural Resources

FROM: Scott Manley, Director of Environmental & Energy Policy

DATE: September 14, 2011

RE: Support for Assembly Bill 165

Wisconsin Manufacturers & Commerce (WMC) respectfully requests your support for passage of Assembly Bill 165, which would remove an unnecessary restriction on the display of fertilizer containing phosphorus.

Although the use of fertilizer containing phosphorus is generally prohibited under Wisconsin law, the Legislature made three important exceptions to the ban. Those exceptions involve startup lawns, certain agricultural activities, and lawns that are deficient in phosphorus per a certified soil test.

Unfortunately, 2009 Act 9 prohibits retailers from displaying fertilizer containing phosphorus, despite the fact that it remains legal to sell the product under the three exceptions noted above. This unnecessary "hide the fertilizer" requirement should be repealed.

The fertilizer display prohibition significantly undermines the ability of merchants to conduct vital in-store marketing, and creates logistical problems for businesses who simply cannot afford to sacrifice valuable storage space in order to hide an otherwise lawful product from customers.

In many retail establishments, stores must rely upon overhead storage or pallet-based stocking directly on the sales floor - especially for seasonal products like fertilizer. The display ban has made it exceptionally difficult for businesses to comply with the law while providing a meaningful opportunity for customers to find the product they are interested in purchasing.

There are many products for which the legislature has placed restrictions on retail sale, including tobacco products, alcohol and lottery tickets. However, state law does not prohibit retailers from displaying any of those products to their customers.

Banning the retail display of fertilizer containing phosphorus is not necessary to achieve the intent of Act 9, and should therefore be repealed. Assembly Bill 165 repeals this intrusive restriction, and instead replaces it with a more sensible approach that requires the posting of a sign to educate customers about the limited circumstances under which fertilizer containing phosphorus may be used.

We urge you to support passage of Assembly Bill 165, and thank you for your thoughtful consideration of our position on the bill.

501 East Washington Avenue, Madison, WI 53703-2914 • P.O. Box 352, Madison, WI 53701-0352
Phone (608) 258-3400 • Fax (608) 258-3413 • www.wmc.org


FORWARD
E PLURIBUS UNUM

Wisconsin Wildlife Federation

September 14, 2011

Good morning, Chairman Mursau and members of the Assembly Natural Resources Committee. My name is George Meyer and I am Executive Director of the Wisconsin Wildlife Federation. The Wildlife Federation is comprised of 170 hunting, fishing and trapping organizations located throughout the State of Wisconsin

Wisconsin sportsmen and women support the prohibition of the unnecessary application of phosphorus as a fertilizer because the runoff of the fertilizer into our lakes and streams adversely affects water quality and leads to the growth of undesirable types of plant growth in our lakes and streams This in turn has serious negative impacts on sports fishing in the state.

As an example I am an avid angler on the Madison lakes and have seen firsthand the major adverse impacts of too much phosphorus based fertilizer running into the lakes from both urban and rural sources. In response to this problem, Dane County a few years ago passed a county ordinance prohibiting the use of phosphorus based fertilizer on lawns in the county. This action is necessary throughout the state in order to protect water quality in all of Wisconsin's waters. My personal observation is that the Dane County prohibition has still allowed for very nice looking lawns in the county.

The Federation opposes Assembly Bill 165 that would once again place phosphorus based fertilizer on the floors of retail outlets where once again it will be purchased by consumers and placed on their lawns and then run off into our waterways. Signage will not solve this problem as many will not read the sign and others will intentionally ignore it. There is no doubt that the current requirement that fertilizer with phosphorus be stored off the retail floor will cause some inconvenience to some retailers. However this is a minimal restriction in light of the great value that clean lakes and streams have to Wisconsin citizens and its economy.

Thank you very much for the opportunity to testify here today on behalf of the Wisconsin Wildlife Federation.

Submitted by:
George Meyer, Executive Director
Wisconsin Wildlife Federation


FORWARD
E PLURIBUS UNUM

SIERRA CLUB
FOUNDED 1892

John Muir Chapter

Sierra Club - John Muir Chapter
222 South Hamilton Street, Suite 1, Madison, Wisconsin 53703-3201
Telephone: (608) 256-0565 Fax: (608) 256-4562
shahla.werner@sierraclub.org http://wisconsin.sierraclub.org

Oppose AB 165,
Before the Assembly Natural Resources Committee,
09/14/11, 9:30 AM, 417 North (GAR Hall),
By Caryl Terrell, Legislative Chair, Sierra Club - John Muir Chapter

Thank you for accepting comments on behalf of our 15,000 Sierra Club members and supporters in Wisconsin. The Sierra Club urges you to oppose AB 165, which would allow for the retail display of lawn fertilizer containing phosphorus.

Restricting phosphorus in lawn fertilizer is needed to reduce phosphorus runoff into lakes, rivers, and streams that causes massive algae blooms. This problem seriously threatens Wisconsin's $2.75 billion dollar per year sport fishing industry and our $13 billion dollar per year tourism industry.

Just last session, the Sierra Club supported the Clean Lakes bill to restrict the sale and display of phosphorus lawn fertilizer. This bill passed the legislature as 2009 Act 9 with unanimous, bipartisan support in both the Assembly and the Senate. Displaying phosphorus fertilizer will render this new law nearly meaningless and lead to declines in lakefront property values and reduced tourism and recreational opportunities.

What do we have to lose by undermining protections for our water resources? Wisconsin is home to over 15,000 lakes, 12,600 rivers, and countless smaller creeks, and our western border is formed by the Mississippi River. Our Great Lakes supply millions with drinking water. For thousands of years, our waterways have provided us clean water and wildlife habitat. They have also inspired a love of nature among countless residents and visitors, including Sierra Club founder John Muir, for whom the Fox River Valley provided an outdoor education about Nature that inspired him throughout his life. We can't afford to allow short-sighted policies to squander these fragile resources.

Please respect the careful consideration that went into crafting 2009 Act 9 by opposing AB 165. The current law provides for long overdue, common sense water protections while recognizing consumer needs through the availability of exemptions and effective, phosphorus-free alternatives.

Please see the list of references on the opposite page, citing 26 peer-reviewed research papers on how excess phosphorus threatens our waterways. Thanks for your consideration of this important matter.

26 Peer-reviewed papers on phosphorus fertilizer and runoff into surface water bodies.

Prepared by Jerry Spetzman Minnesota Department of Agriculture, http://www.maine.gov/dep/blwq/doclake/fert/research.htm

1. Effects of Lawn Fertilizer on Nutrient Concentrations in Runoff from Lakeshore Lawns, Lauderdale Lakes, Wisconsin, USGS Water-Resources Investigations Report 02-4130, Herbert S. Garn, July 2002. http://wi.water.usgs.gov/pubs/wrir-02-4130/wrir-02-4130.pdf

2. Fertility Levels of Minnesota Lawn and Garden Soils, Ag. Exp. Station University of Minnesota, John Grava, William Fenster. 1979

3. Sources of Pollutants in Wisconsin Stormwater, Water Science Technology 28: 241-259, R.T. Bannerman, 1993.

4. Relationship between Phosphorus Levels In Three Ultisols and Phosphorus Concentrations in Runoff, Journal of Environmental Quality 28:170-175, D.H.Pote, 1999.

5. The Impact of Soil and Fertilizer Phosphorus on the Environment, Advances in Agronomy, Volume 41, A.N. Sharpley, 1987.

6. Phosphorus Leaching from Soils Containing Different Phosphorus Concentrations, J. of Environmental Quality 24: 904-910, G. Heckrath, 1995.

7. Sources of Phosphorus in Stormwater and Street Dirt from Two Urban Residential Basins in Madison, Wisconsin, 1994-95, US Geological Survey, R.J. Waschbusch, 1999. http://wi.water.usgs.gov/pubs/WRIR-99-4021/index.html

8. Nutrients and Sediment in Runoff from Creeping Bentgrass and Perennial Ryegrass Turfs, Journal of Environmental Quality 26:1248-1254, Douglas Linde, 1997

9. Determining Environmentally Sound Soil Phosphorus Levels, Journal of Soil and Water Conservation 51(2): 160-166, Andrew Sharpley 1996.

10. Depth of Surface Soil-runoff Interaction as Affected by Rainfall, Soil Slope, and Management, Soil Science Society of America Journal 49: 1010-1015, A.N Sharpley, 1985.

11. Response of Turf and Quality of Water Runoff to Manure and Fertilizer, Soil & Crop Sciences Department and Agricultural Engineering Department, Texas A & M University, J.E. Gandreau.

12. An integrated approach for modeling and managing golf course water quality and ecosystem diversity, Ecological Modeling 133: 259-267, K.R.Mankin, 2000.

13. Surface Runoff Losses of Phosphorus and other Nutrient Elements from Fertilized Grassland, Norwegian Journal of Agricultural Sciences 3: 47-55, Gotfred Uhlen, 1988.

14. Bioavailable phosphorus dynamics in agricultural soils and effects on water quality, Geoderma 67: 1-15, Andrew Sharpley, 1995.

15. Modeling the Impacts of Management Practices on Agricultural Phosphorus Losses to Surface Waters of Finland, Water Science Technology 12: 265-272, S. Rekolainen, 1999.

16. Loading Rates of Nutrients Discharging from a Golf Course and a Neighboring Forested Basin, Water Science Technology 39: 99-107, Takao Kunimatsu,, 1999.

17. Influence of Buffers on Pesticide and Nutrient Runoff from Bermudagrass Turf, J. of Environmental Quality 26: 1589-1598, J.T. Cole, 1997.

18. The Transport of Bioavailable Phosphorus in Agricultural Runoff, J. of Environmental Quality 21: 30-35, Andrew Sharpley, 1992.

19. Best Management Practices to Reduce Pesticide and Nutrient Runoff from Turf, ACS, C. 16, J.H. Baird, 2000.

20. Soil Test Calibration for Establishment of Turfgrass Monostands, Soil Science Society of Am J 47: 1161-1166, J.R. Turner, 1983.

21. Turfgrass, Number 32 in the series AGRONOMY, S.H. Mickelson, 1992

22. Agricultural Phosphorus and Eutrophication: A Symposium Overview, J. of Environmental Quality 27: 251-257, T.C. Daniel, 1998.

23. Agricultural Phosphorus and Eutrophication, USDA, Agricultural Research Service - 149, A.N. Sharpley, 1999.

24. Phosphorus Export from a Low-density Residential Watershed and an Adjacent Forested Watershed. Lake and Reservoir Management, Volume II, J. Dennis, 1986.

25. Nutrient Movement from Septic Tanks and Lawn Fertilization. Tech. Bull. 73-5 Department of Natural Resources, Lansing, Michigan, B. Ellis and K. Childs 1973.

26. Sources of Contamination in an Urban Basin in Marquette, Michigan and an Analysis of Concentrations, Loads and Data Quality. US Geological Survey Water- Resources report 97-4242, J Steuer, W. Selbig, N. Hornewer and J. Prey, 1997


FORWARD

Capitol Strategies, LLC

Lobbying • Government Relations • Political Consulting • Public Affairs

Assembly Committee on Natural Resources
September 14, 2011

Testimony of Amy Winters, Contract lobbyist for Scotts Miracle-Gro on AB 165, pertaining to the retail display of lawn fertilizers containing phosphorus.

Chairman Mursau, members of the committee, thank you for the opportunity to provide comments on Assembly Bill 165. My Client, Scotts Miracle-Gro is the world's largest marketer of consumer products for lawn and garden care. They have been in business for over 100 years and incorporate a culture of continuous improvement in their products and their interactions with their consumers. They also have a strong history of environmental stewardship, and sustainability.

Scotts is very supportive of Assembly Bill 165 and urges your support for this important measure. While Wisconsin state statutes allows for the legal use of starter and patch fertilizers containing phosphorus, the law then also bans the retail display of these products. This has resulted in Wisconsin retailers either having to utilize valuable storage space and staff resources or completely pulling the products from their shelves. The limited availability of these products at retail in Wisconsin, has not only put an economic hardship on Wisconsin retailers and manufacturers like Scotts, it has also been bad for consumers who have reduced success with new lawn seeding when planting without starter fertilizer.

While we are very supportive of efforts to protect and enhance water quality, we do not believe that the current retail ban on starter fertilizer strengthens the law or that goal. It is an unnecessary restriction, and as Wayne Kussow emeritus professor at the U.W. Madison Department of Soil Science put it, "The requirement that P-containing fertilizers be hidden in a back room instills in the minds of citizens the notion that P is very nasty stuff. Such a restriction embodies government distrust of business and disrespect for the intelligence of private citizens"

Starter and patch fertilizer is specifically formulated for grass establishment and research has shown that failure to apply starter fertilizer slows grass establishment, thereby increasing the potential for water runoff and phosphorus transport to surface waters from soil erosion; a dense lawn prevents this erosion/runoff.

The state of MN, the first state to implement a state wide phosphorus ban does not have a retail display ban on lawn fertilizer; Wisconsin is in fact, the only state that bans the retail display of these products. Sales of starter fertilizer in MN have remained unchanged – they parallel the sales of grass seed providing assurance that the consumer is utilizing the product for the intended purpose. Allowing the retail display of starter and patch fertilizer has not detracted from the goals of the MN (or other state's) law and we can be confident it would not detract from the goals here in Wisconsin. In addition, Scott's does not sell maintenance lawn fertilizer containing phosphorus in Wisconsin and will be completely phosphorus free by next year on all maintenance lawn fertilizers they sell nationwide; the retail display of starter and patch fertilizers are the focus of this bill and as already stated are allowed for use under current law with no restrictions when applied to establish or repair a lawn.

Again we ask for your support of Assembly Bill 165. Thank you.

Address: P.O. Box 771 • Madison, WI 53701 • **Phone:** (608) 235-8443 • **Fax:** (608) 237-2244
amywinters@capitol-strategies.net • www.capitol-strategies.net

Assembly Bill 165

Lawn Fertilizer Display Ban Questions and Answers Fact Sheet

Q: How many states ban the display of lawn fertilizers containing phosphorus?

A: One. Of the 9 states that have lawn fertilizer phosphorus restrictions, Wisconsin is the only one that bans the display of lawn fertilizers containing phosphorus. Another 6 states have P ban legislation pending. None is proposing bans or restrictions on the display of fertilizer containing phosphorus.

Q. How do other states accomplish the use ban and ensure phosphorus products are only used when seeding/sodding or to correct a soil deficiency as stated in the law?

A. Compliance is primarily accomplished by manufacturers and retailers who provide only zero-phosphorus lawn maintenance products at retail and provide phosphorus containing products that are specifically targeted and labeled for the allowable uses (seeding and correction of soil deficiency). Some states supplement this by requiring segregation of phosphorus-free and phosphorus containing products or retail signage that explains when phosphorus containing products are permitted to be used.

Q: Does Assembly Bill 165 weaken the lawn fertilizer phosphorus restriction law?

A: No, the bill does NOT change any of the phosphorus restrictions in the law, it ONLY allows for the display of lawn fertilizer products that are legally able to still be used. "Starter" fertilizer is specifically formulated for grass establishment. Research has shown that failure to apply starter fertilizer slows grass establishment, thereby increasing the potential for water runoff and P transport to surface waters.

Q: Won't allowing the display of lawn starter fertilizers containing phosphorus result in consumers purchasing more starter fertilizer for application to an established lawn?

A: No, this has not occurred in the numerous states where lawn phosphorus bans have been enacted. The attached table shows fertilizer sales data for Dane County, WI where retailers unknowingly continued to display starter fertilizer for the two years following enactment of the local ordinance. Retailers in the county replaced all lawn maintenance fertilizers with phosphorus-free alternatives but continued to display and sell starter fertilizer. The sales data show that when the display ban on maintenance fertilizer went into effect in 2004, sales of starter fertilizers stayed stable prior to and following the display ban, suggesting that consumers understand when fertilizers containing phosphorus are needed and can be legally applied..

Q: Won't the use of phosphorus fertilizer for seeding establishment and correction of phosphorus deficiencies identified through soil testing result in more phosphorus runoff to Wisconsin's lakes?

A: No, Research at the UW Madison, Minnesota, New York and Michigan State have all proven that healthy, dense lawns protect water quality by reducing both storm water volume and storm water nutrient content. This is accomplished primarily through a reduction in sediment loss from lawns. Grass plants knit the soil together preventing erosion of soil particles which contain phosphorus. Dense grass reduces the velocity of runoff water, allowing for more infiltration into soil and reduces its capacity to erode soil particles.

Q: Shouldn't we just err on the side of caution and not allow the use of any fertilizers containing phosphorus?

A: No, This approach would contradict established science and would end up doing more harm than good. Decades of turf science conducted at land grant universities across the country demonstrate the essential need for phosphorus to grow plants, including grass. Properly managed mature lawns often have sufficient phosphorus to maintain turf health and supplemental phosphorus is not usually needed. However phosphorus is critical for establishing new seed and for supplementing soils that are proven to be phosphorus deficient.

Research has shown that phosphorus runoff is not from lawn fertilizers but from sediment loss. A study conducted in Madison, Wisconsin showed the amount of tree canopy over streets accounted for <u>all</u> of the P in runoff from the streets. It has long been known that P loads from urban areas have two peaks—one at the time of leaf fall and the other during spring snow melt. It has also been well established that a well fertilized lawn allows less sediment loss than an unfertilized lawn and starter fertilizer containing phosphorus is an essential part of a well established lawn.

Q: One impetus for banning fertilizer containing phosphorus on turfgrass has been surveys showing many home lawns have excessive levels of soil-test phosphorus; shouldn't these levels prove the point that turf fertilizers containing phosphorus are not needed?

A: The surveys conducted have been confined to cities such as Madison. State-wide lawn soil test data have been compiled by the State Soil and Plant Analysis Laboratory in Madison. Per the attached table, soil tests for some counties indicate that 25% or more of the lawns are phosphorus deficient.

Q: Do the turf fertilizer phosphorus bans/restrictions improve lake water quality?

A: There is NO evidence of that currently. A Dane County, Wisconsin ordinance regulating P application on lawns took effect in January 2005. The Dane County Lakes Commission

reported in late 2007 there was no evidence at that time of improvements in lake water quality and has not updated that position since. When passing statewide restrictions on phosphorus applications on turfgrass in 2002, Minnesota legislators mandated the state's Department of Agriculture submit a report to the legislature by January 15, 2007 on the effectiveness of the legislation. As stated in that report, "Changes in water quality resulting from the law have not been documented at this time." The phosphorus law has resulted in significant reduction in phosphorus fertilizer use which is evidenced through state reporting of fertilizer sales data. All lawn maintenance fertilizers sold in the state no longer contain phosphorus.

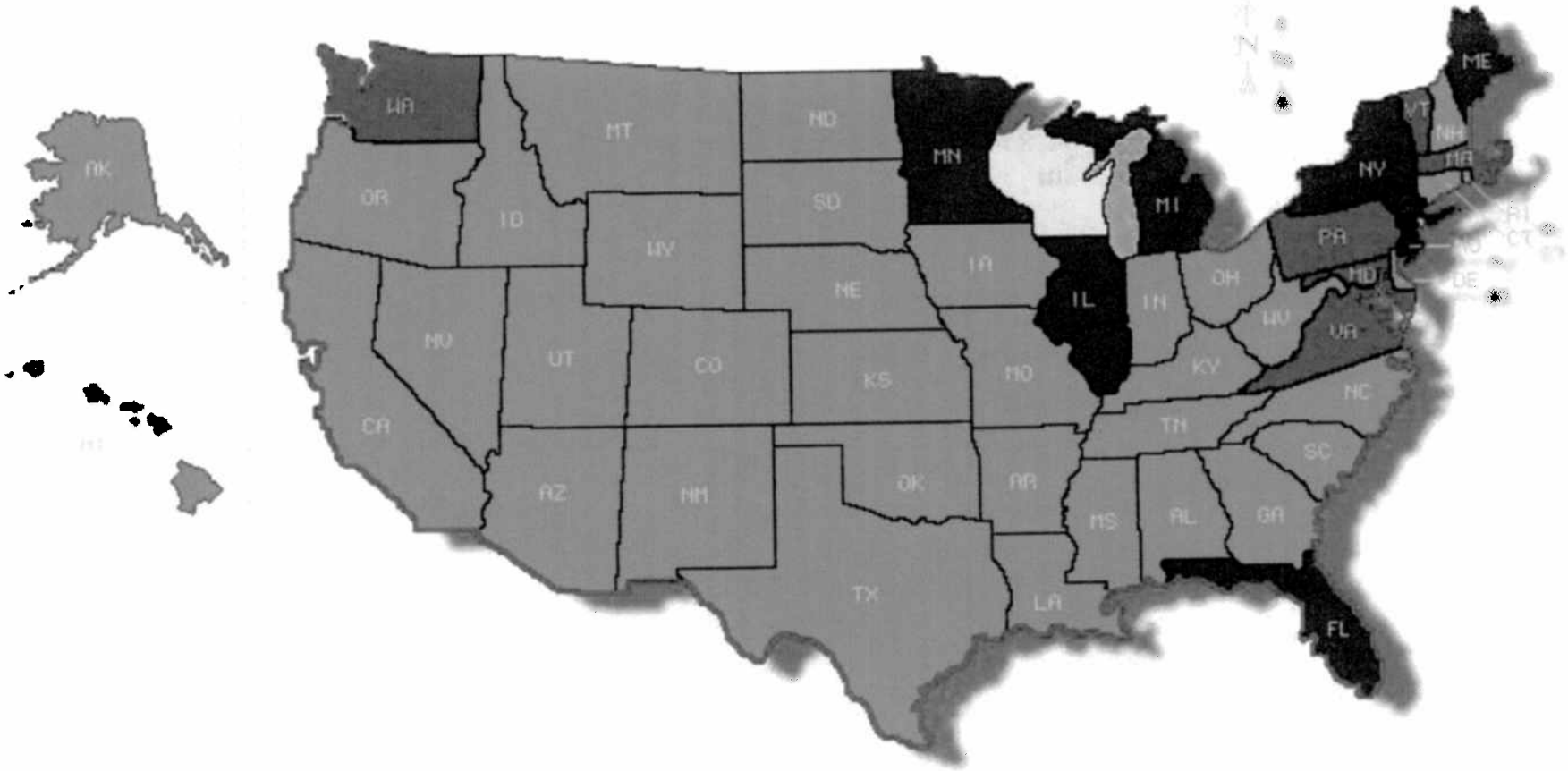
Q: Will Assembly Bill 165 aid retailers and consumers and correct an inequity?

A: Yes. Under current Wisconsin law, natural organic fertilizers that often contain substantial quantities of phosphorus are exempt from the "no display" regulation while starter and patch fertilizers that are used in establishing and repairing lawns cannot be displayed. The response of many retailers has been to simply not stock these fertilizers. Consumers are frustrated when they need to apply starter fertilizer for grass establishment or their soil test recommendation is to apply maintenance fertilizer containing phosphorus for correction of soil phosphorus deficiencies and they have difficulty finding the product. The unavailability of product has also negatively impacted the grass seed category where product performance complaints and lack of performance have been experienced.

Wisconsin retailers that have continued to stock starter and patch fertilizers out of sight of consumers have reported large losses in sales of these products. Blain's Farm and fleet has reported a 43% reduction in sales and Scotts Miracle-Gro has reported a 90% reduction in sales of starter and patch fertilizers since the law took effect. Failure to apply phosphorus when it is needed results in thin, poor quality turf prone to soil erosion.

> The requirement that P-containing fertilizers be hidden in a back room instills in the minds of citizens the notion that P is very nasty stuff. Such a restriction embodies government distrust of business and disrespect for the intelligence of private citizens.
>
> ~Wayne Kussow Ph.D emeritus *professor in the Department of Soil Science at the University of Wisconsin-Madison*

States With Lawn Fertilizer Phosphorus Bans



- No Phosphorus Ban for Lawn fertilizers
- States with phosphorus ban with use allowed for low P soil test and starter fertilizer
- States with phosphorus ban with use allowed for low soil test and starter fertilizer that ban the display of allowed products
- Legislation introduced (with no display restrictions)

Prepared by Capitol Strategies • P. O. Box 771, Madison, Wisconsin 53701 • (608) 235-8443 • www.capitol-strategies.net

Supporting Data for Retail Display of Scotts Starter™ Fertilizer

Table 1. Statewide Grass Seed Sales in Wisconsin: The Scotts Company Jan- Dec, 2006

82 SKUs	82 SKUs offered in WI, includes multiple package sizes
354,774 eaches sold to consumers	Sizes range from 3 lb packages to 20 lb packages
2,089,819 pounds	Total pounds of Scotts grass seed sold to consumers in WI

Table 2. Unit sales of Scotts Starter Fertilizer in Dane County, WI 2004-2006.

Product Name	2006 Units	2005 Units	2004 Units
SCOTTS STARTER FERT 12M	373	416	354
SCOTTS STARTER FERT 14M	29		
SCOTTS STARTER FERTILIZER 5M	448	578	587
TOTAL	**850**	**994**	**941**

Note: Scotts Starter Fertilizer (as well as competitor brands) remained on display following the 2004 ordinance. Dane County informed registrants and retailer in 2007 that these products were not exempted from the display prohibition and they were subsequently de-listed. Sales remained flat prior to and after the ordinance which indicates that consumers are using the products appropriately (for establishment of newly seeded areas).

Lawn and Garden Soil Samples Analyzed by SPAL: 2001-2008
8,190 lawn and 7,025 garden samples

Sample origin by county: top 10 in each category

	Lawn samples			Garden samples	
County	Number	% of total	County	Number	% of total
Dane	1,408	17.1	Dane	858	12.2
Wood	564	6.9	Waukesha	357	5.1
Milwaukee	467	5.7	Brown	344	4.9
Waukesha	399	4.9	Wood	314	4.5
Marathon	381	4.6	Milwaukee	252	3.6
Brown	368	4.5	Marathon	227	3.2
Racine	292	3.6	Racine	211	3
Eau Claire	270	3.3	Oneida	195	2.8
Portage	212	2.6	St. Croix	166	2.4
St. Croix	201	2.6	Rock	161	2.3
Totals	4,562	55.7	Totals	3,085	43.9

Counties with lowest and highest average soil P and K analyses

	Lawn samples			Garden samples	
Phosphorus	ppm P	County	Phosphorus	ppm P	County
Low	66	Ashland	Low	138	Door
High	188	Vilas	High	258	Burnett
Potassium	ppm K	County	Potassium	ppm K	County
Low	95	Marquette	Low	132	Adams
High	236	Manitowoc	High	453	Kewaunee

Top 10 counties with percent samples having less than optimum levels of P anf K

Lawn Samples				Garden samples			
County	%P	County	%K	County	%P	County	%K
Waupaca	38.5	Monroe	42.9	Ashland	22.7	Marquette	63.8
Ashland	28.6	Waupaca	38.5	Crawford	20.6	Adams	62.7
Outagamie	25	Burnett	32.7	Door	15.2	Sauk	54.2
Grant	23	Adams	32.3	Oconto	14.6	Green Lak	43.8
Kewaunee	18.2	Marquette	31	Juneau	13	Columbia	41.3
Taylor	17.1	Ashland	28.6	Manitowoc	11.6	Vilas	40.4
Racine	14.7	Vilas	21.7	Fond du L.	11.3	Jefferson	38.5
Ozaukee	13.3	Rusk	26.1	Rosk	10.9	Oneida	37.9
Milwaukee	13.1	Marinette	25.4	Racine	10.4	Ashland	36.4
Waukesha	10.3	Juneau	21.8	Ozaukee	10.4	Kenosha	36.2


FORWARD
E PLURIBUS UNUM

DATE: September 26, 2011

TO: Assembly Committee on Natural Resources

FROM: Wisconsin Association of Lakes

Scotts Miracle-Gro Company

Clean Wisconsin

Alliance of Wisconsin Retailers

Wisconsin Wildlife Federation

Wisconsin Green Industry Federation

Wisconsin Manufacturers and Commerce

Wisconsin Retail Council

Wisconsin Agribusiness Council

RE: Assembly Bill 165 Assembly Substitute Amendment 1

The groups above would like to thank you for the time you took to listen to our testimony on Assembly Bill 165 on September 14th. As stated in our testimony we were working on compromise language. Assembly Substitute Amendment 1 is the result of that work and we are all in agreement with the amendment.

We ask that you vote favorably for the bill as amended by Assembly Substitute Amendment 1

Please do not hesitate to contact Amy Winters, Contract Lobbyist for Scotts Miracle-Gro at (608) 235-8443 or John Keckhaver, Legislative Counsel, Wisconsin Association of Lakes at (608) 395-1805 if you have any questions or need additional information.

Thanks!


FORWARD
E PLURIBUS UNUM

JOE KNILANS

STATE REPRESENTATIVE • 44TH ASSEMBLY DISTRICT

- Good Morning Mr. Chair and Committee Members. Thank you for the opportunity to testify before you, today, on Assembly Bill 165

- Assembly Bill 165 has a simple purpose. The retail display ban of turf fertilizer has become a large burden to retailers who sell lawn care products. Under the law, retailers are currently required to post a sign stating that grass fertilizer containing phosphorus is available upon request but cannot display it on their shelves.

- I purchased this bag of start up fertilizer last night at Farm and Fleet. I actually had to drive around to the back of the store to pickup this product. It makes no sense to me that I could not just take this bag of start up fertilizer off the store floor, saving myself and the store time.

- Retailers are losing valuable back room shelf space and the time that it takes associates to bring the product to the floor; their sales have also dropped 90% on the sale of starter fertilizer which has been a significant economic hit. This is a bill about Wisconsin retailers and not a bill about phosphorous or the environment. A member of my community, Bob Blain of Blains Farm and Fleet, has expressed to me the large economic hit from the retail display ban.

- This proposal will not change any of the lawn fertilizer phosphorus restriction laws, it simply allows for the display of lawn fertilizer products that are legally able to still be used. Research has shown that failure to apply products such as starter fertilizer slows the growth of grass.

- This legislation also requires a retailer that sells grass fertilizer that contains phosphorus to post a sign describing the general prohibition against applying fertilizer that contains phosphorus to grass and the exceptions to the prohibition.

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- Also, I would like to highlight the glaring fact that of the 9 states that have lawn fertilizer phosphorus restrictions, Wisconsin is the only one that bans the display of lawn fertilizers containing phosphorus.

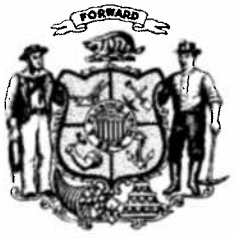
- The biggest fears of those that oppose this bill are that it will stimulate more use of fertilizers with this chemical. However, in other states where a ban on prosperous has been enacted this has not been the case. Decades of turf science conducted at land grant universities across the country demonstrate the essential need for phosphorus to grow plants. Phosphorus is critical for establishing new seed and for supplementing soils that are proven to be phosphorus deficient.

- The fact of the matter is Wisconsin is losing large amounts of business due to this law. This is a legal product and is still being used by consumers whether they know enough to ask for it in Wisconsin or they go to Iowa or Illinois. In times when it is hard for business to stay afloat, we can not have our customers traveling to other states because they are unaware that these products are available in their local stores.

- I will end by saying again, this bill is about our Wisconsin Retailers and making sure that potential revenue stays in the hands of our hard working Wisconsin Business owners and within state boarders. Our motto these past few months has been that we in Wisconsin are "Open for business". Mr. Chair and members of the committee lets stay true to this and give the business owners of Wisconsin the same opportunity that every other state has.

- Thank you for your time

WISCONSIN STATE LEGISLATURE



Phosphorus fact & fiction

14 Jan, 2009 By: Wayne Kussow Ph.D.

Guidelines for the responsible use of a valuable nutrient that's now in legislators' crosshairs

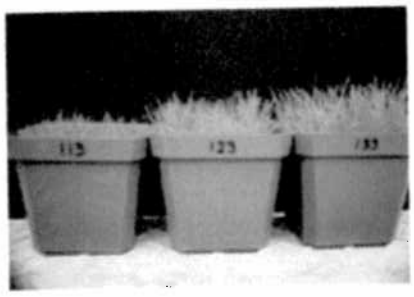
Classification of phosphorus as a primary plant nutrient is well deserved. Energy-rich phosphate bonds are what fuel the metabolic machinery of plant cells. A limiting supply of the nutrient invariably slows growth of all the turfgrass plant's organs - shoots, roots, tillers, stolons and rhizomes. In fact, it's a slowdown in growth that's the first symptom of phosphorus deficiency in turfgrass. The grass typically has a dark green color, but just isn't growing as fast as it should (Figure 1). In cases of even more severe deficiency, red pigments begin to accumulate in the leaves, and they develop a purplish coloration.

A strong start

Phosphorus deficiency in turfgrass is most readily seen during its establishment. While plant seeds are typically high in phosphorus, turfgrass seeds are so tiny that young seedlings quickly exhaust the seed supply. They're then dependent on fertilizer and soil to meet their phosphorus needs. If these phosphorus supplies are inadequate, the grass is slow to establish (Figure 2), resulting in thin stands prone to invasion by weeds and washing by heavy rains. The answer to this problem is starter fertilizer.

In most cases, applying turf starter fertilizer at the rate of 1 lb. N/M (M = 1,000 sq. ft.) will suffice. Typical grades of starter fertilizer are 13-26-12, 21-28-7, 16-25-13 and 6-12-8. Thus, at 1 lb. N/M, you're applying 1.3 to 2 lbs. P2O5/M. If you know or suspect that the soil is low in phosphorus, increase the rate of starter fertilizer application to 1.5 lb. N/M.

Figure 1. Phosphorus deficiency (left) and phosphorus sufficiency (right) in turfgrass



The rate of starter fertilizer application is but one part of the task of meeting the phosphorus requirements of turfgrass seedlings. The other part is soil placement. The fertilizer phosphate needs to be in the immediate vicinity of the seedling's juvenile root system. Lightly raking the starter fertilizer into the soil is all that's required. Incorporating the fertilizer to greater depths reduces its effectiveness unless you increase the application rate accordingly. Deep placement without a rate increase results is a reduction in turfgrass root development. This can be seen in Figure 3, where the same rate of starter fertilizer was incorporated to different depths in the soil.

There are instances where turfgrass response to starter fertilizer phosphorus may not be seen. This arises when the soil or topsoil brought in has high levels of soil test phosphorus. As a general rule, when the soil contains two to three more times soil test phosphorus than is needed by established turfgrass, the chances of seeing a response to starter fertilizer phosphorus are low.

If, for example, the soil testing laboratory you patronize says that 20 ppm (40 lb./acre) soil test phosphorus is adequate for established turfgrass, then about 60 ppm is adequate for establishment. Why this difference? It's the result of established turfgrass having a dense, fibrous root system that's efficient in taking up soil phosphorus. Juvenile turfgrass root systems need time to develop capacity to effectively forage for soil phosphorus.

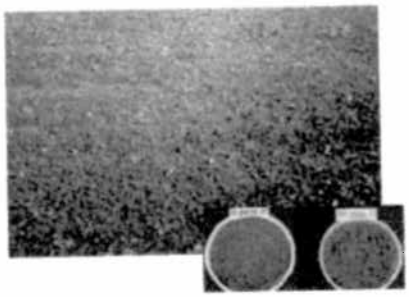


Figure 2. Effect of starter fertilizer phosphate on turfgrass establishment. No starter fertilizer was applied to the plots in the upper left and lower right corners. Figure 2a. Importance of starter phosphate during turfgrass establishment. Note the difference in turfgrass growth with adequate levels of phosphate.

WISCONSIN STATE LEGISLATURE

Phosphorus Bans Ignore Problem's Real Causes

Editor's note: This is the first in a four-part series on the science behind phosphorous bans increasingly being proposed in state legislatures.

By Wayne Kussow

A phosphorus "ban" is the popular press term for government ordinances or laws regulating fertilizer phosphorus (P) applications on turfgrass. Banning phosphorus applications to turfgrass has become the "in thing" for government officials across the country.

The scope of these bans extends from local communities to entire states. Originally restricted to home lawns, bans are now being extended to all types of managed turfgrass.

The well-intentioned objective is to improve surface water quality that has been or is being degraded by excessive algae growth. Scientists are in near-universal agreement that the key to curtailing algae growth is to starve the organism for phosphorus.

Banning P fertilizer application to turfgrass is predicated on two assumptions.

First is that the quantity of phosphorus in runoff water from turfgrass constitutes a major portion of the total phosphorus loads annually entering lakes and streams. If not, the bans will not improve surface water quality.

Second, the bans assume fertilizer is the primary source of phosphorus in runoff water from turfgrass established on home lawns, athletic fields, and golf courses.

"[R]unoff water phosphorous loads from turfgrass are generally greater than for forests, do not differ significantly from native vegetated areas such as prairies, and on average are one-third or less than those from agricultural land."

Key Runoff Issues

It is relatively simple to collect runoff water and measure its phosphorus concentration, but these numbers alone have little real value and can be very misleading about surface water contamination. What has to be disclosed is the quantity of P in the runoff water. Then, and only then, can turfgrass runoff water be assigned significance in terms of the total quantities of P (the P "load") being delivered to surface waters.

Determining quantities of phosphorus requires measurement of runoff volumes in addition to the P concentrations in that water. This is where the design of studies of phosphorus losses from turfgrass takes on a complexity many researchers have shied away from. In some instances runoff water volumes have been estimated using computer models for urban areas. Computer models also are being applied to estimate what a phosphorus ban might do for lake water quality.

How reliable are these estimates? Consider for a moment your local weather forecasts: They, too, are based on computer models.

The second key issue regarding research on phosphorus in turfgrass runoff water is time frame. Studies conducted in Minnesota, New York, and Wisconsin have clearly shown that in these states, at least 70 percent and in some years up to 99 percent of the annual water runoff and P loss from turfgrass is associated with snow melt. Yet in numerous studies runoff water has been collected only during the growing season or over even shorter time frames. This can grossly distort the estimate of P load in turfgrass runoff water and lead to erroneous conclusions regarding the sources of that phosphorus.

Turfgrass vs. Other Uses

Minnesota, New York, and Wisconsin researchers have recently recorded turfgrass runoff water P loads for 12-month periods. The turfgrass runoff P load ranged between 0.12 and 3.18 pounds of phosphorus per acre, averaging 0.7 pounds per acre. Phosphorus loads in runoff water from agricultural lands can vary anywhere between 0.5 and 18.0 pounds per acre, depending on type of crop grown, fertilization practices, soil characteristics, and weather.

Perhaps a more realistic value for comparison with turfgrass is the 2.5 pounds of phosphorus per acre per year recently reported for the runoff water from two rural Iowa watersheds with combinations of annual row and perennial crops. Runoff water P loads from forested areas are quite consistently at the lower end of the range for turfgrass. Side-by-side comparisons between turfgrass and prairie in Wisconsin have shown no differences in runoff water phosphorus loads.

The logical conclusion is that runoff water P loads from turfgrass are generally greater than for forests, do not differ significantly from native vegetated areas such as prairies, and on average are one-third or less than those from agricultural land.

Many Factors in Play

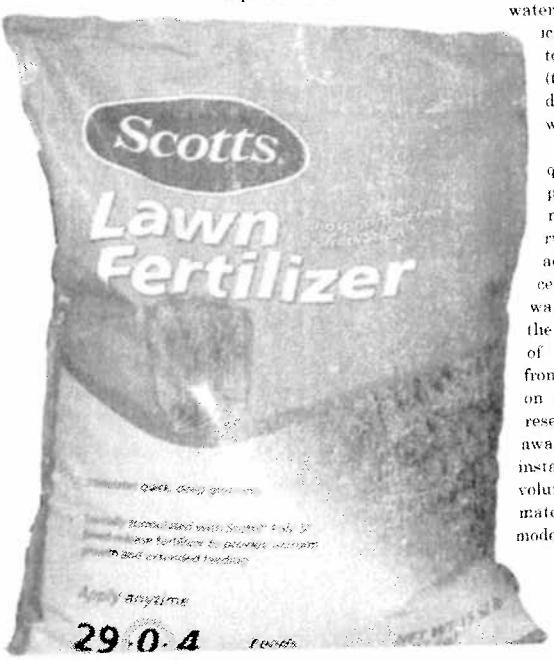
That means what turf areas contribute to the total annual phosphorus loading of a particular lake depends very much on the breakdown in type of land use in the watershed draining into the lake.

It also depends on the sources of water feeding into the lake. For some lakes a significant and sometimes dominant source is groundwater, while a few are predominantly spring-fed. Source of water inputs is but one of many factors that impart unique characteristics to individual lakes.

If careful study of a particular lake indicates turf areas may be a major source of the annual phosphorus load, the question then becomes what is the most effective means for reducing that load. To answer this, one must know the sources of phosphorus in turfgrass runoff water.

To many people the answer is simple—fertilizer. However, **researchers have consistently found higher phosphorus loads from unfertilized than fertilized turfgrass**. The Minnesota, New York, and Wisconsin research has shown on average 95 percent of the annual phosphorus load from turfgrass is collected in the winter months and several months after the most recent fertilizer phosphorus application.

I will address that issue in the next installment of this series.



Wayne Kussow, Ph.D. (**wrkussow@wisc.edu**) *is an emeritus professor in the Department of Soil Science at the University of Wisconsin-Madison.*

ANALYSIS

Phosphorus Bans Ignore Problem's Real Causes

Editor's note: This is the second in a four-part series on the science behind phosphorus bans increasingly being proposed in state legislatures.

By Wayne Kussow

Phosphorus in turfgrass fertilizers comes in two chemical forms, and both are 100 percent water-soluble. That means after one or two irrigations or comparable rainfalls, no fertilizer phosphorus remains on the soil surface. Instead, the phosphorus has washed into the soil, where it becomes strongly attached to soil particle surfaces while remaining available to plants.

At that point, less than 1 percent of the fertilizer phosphorus is capable of making its way into bodies of water or the water table.

Fertilizer Bonding

Transfer of fertilizer phosphorus (P) to surface water is therefore predominantly through erosion of phosphorus-bearing soil particles. These soil particles constitute what is commonly referred to as the sediment in runoff water.

This is where turfgrass has a unique feature when compared to agricultural row crops. Sediment losses from agricultural lands are measured in tons per acre, while sediment in turfgrass runoff water ranges from zero up to 100 pounds per acre.

This superior ability of grasses to trap and hold sediment is why grass has long been used as a buffer strip between agricultural lands and surface waters.

Thick Lawns Deter Runoff

Since sediment transport is the primary means for transfer of fertilizer phosphorus from turfgrass to surface water, the quantity of phosphorus transferred should depend on two things: the amount of sediment lost, and the concentration of fertilizer phosphorus on the sediment particle surfaces.

The amount of sediment lost from turfgrass is almost totally dependent on the density of the grass. Research has shown as turfgrass cover approaches 70 percent, sediment losses approach zero.

Another factor in sediment loss is a visual quality rating of the grass. Turfgrass researchers employ a rating scale of 1 to 9, with 1 being bare soil and 9 being a dense, uniform cover. Research shows as the quality rating approaches 7, sediment loss goes to zero.

The second thing determining the quantity of fertilizer phosphorus in sediment is the concentration of phosphorus on soil sediment particles. This is readily determined by soil tests. Soil tests are good indicators of the amount of fertilizer phosphorus applied, and presumably the phosphorus concentration bears a direct relationship to the amount of phosphorus in turfgrass runoff water.

This assumption is what leads to the use of soil test phosphorus level as the criterion for deciding when fertilizer phosphorus application on turfgrass is to be banned.

Soil Tests Not Valid

But is this a valid assumption? Not according to research conducted to date in Minnesota and New York. **That research has shown there is no direct relationship between turfgrass soil test phosphorus levels and the quantities of phosphorus in runoff water.**

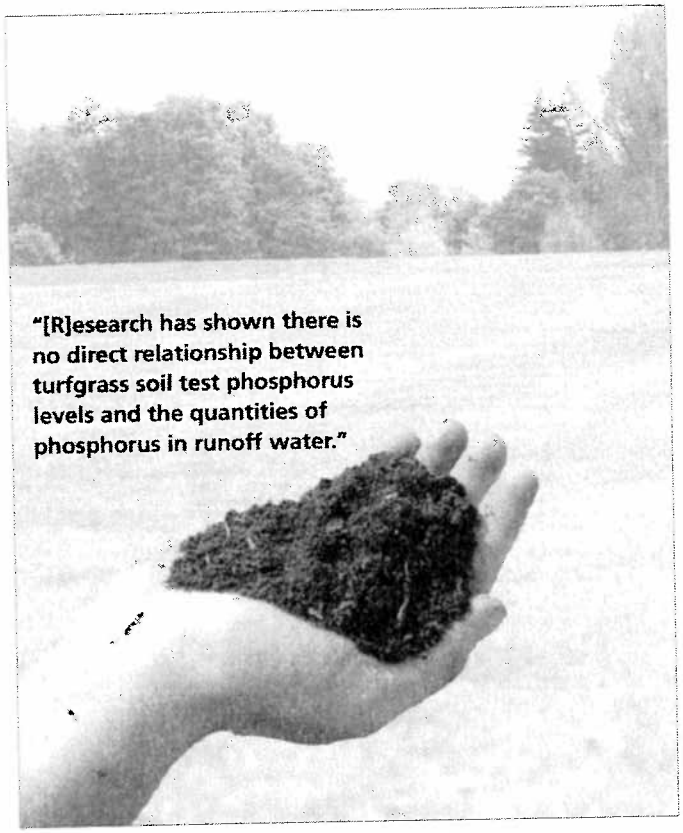
Similarly, **Wisconsin research has shown there is no relationship between the amount of fertilizer phosphorus applied and the amount of phosphorus in turfgrass runoff water.**

In other words, there is no scientific validation of the use of soil tests as the criterion for regulating or banning fertilizer phosphate application to turfgrass.

A study conducted in Madison, Wisconsin showed the amount of tree canopy over streets accounted for all of the P in runoff from the streets. It has long been known that P loads from urban areas have two peaks—one at the time of leaf fall and the other during spring snow melt.

Recycling Phosphorus

One impetus for banning the fertilizer phosphorus on turfgrass has been surveys showing many home lawns have excessive levels of soil-test phosphorus with respect to actual turfgrass requirements.



"[R]esearch has shown there is no direct relationship between turfgrass soil test phosphorus levels and the quantities of phosphorus in runoff water."

When soil-test levels of phosphorus exceed what the grass actually requires, there is no additional uptake of phosphorus. **Phosphoros bans assume fertilization is responsible for high soil-test levels. However, the science does not support this seemingly logical assumption.**

Turfgrass researchers know the ratios in which nutrients are taken up by grasses are remarkably constant. For the cool-season grasses grown in northern climates, the ratio in which nitrogen (N) and phosphorus (P) are taken up is close to 9:1.

Leaving the clippings on lawns, now a widespread practice, results in recycling of phosphorus. **Wisconsin research has shown when clippings are left on lawns, it takes only 0.1 pound of fertilizer P per pound of N to replace what has been removed from the soil. This equates to a ratio of 10:1. Any survey of fertilizers commonly sold for lawn application quickly reveals a similar ratio of 10:1.**

This leads to the inescapable conclusion that **these fertilizers are supplying only the quantity of phosphorus that is being removed by the grass.**

Stockpiling Topsoil

An alternative source of the P in lawn soils was recently explored in Madison, Wisconsin.

Researchers noted new housing developments often strip topsoil and stockpile it for eventual spreading on lawns prior to turfgrass establishment. They also note much of the development is on agricultural land that likely has a history of heavy fertilization. The stockpiled topsoil averaged more than three times the phosphorous levels researchers consider optimum for home lawns.

That means the common practice of spreading these topsoils around newly constructed buildings prior to lawn establishment can result in high to excessive levels of soil test P without any fertilizer actually being applied.

Wayne Kussow, Ph.D. (**wrkussow@wisc.edu**) *is an emeritus professor in the Department of Soil Science at the University of Wisconsin-Madison.*

ANALYSIS

Phosphorus Bans: Is Science Taking a Backseat?

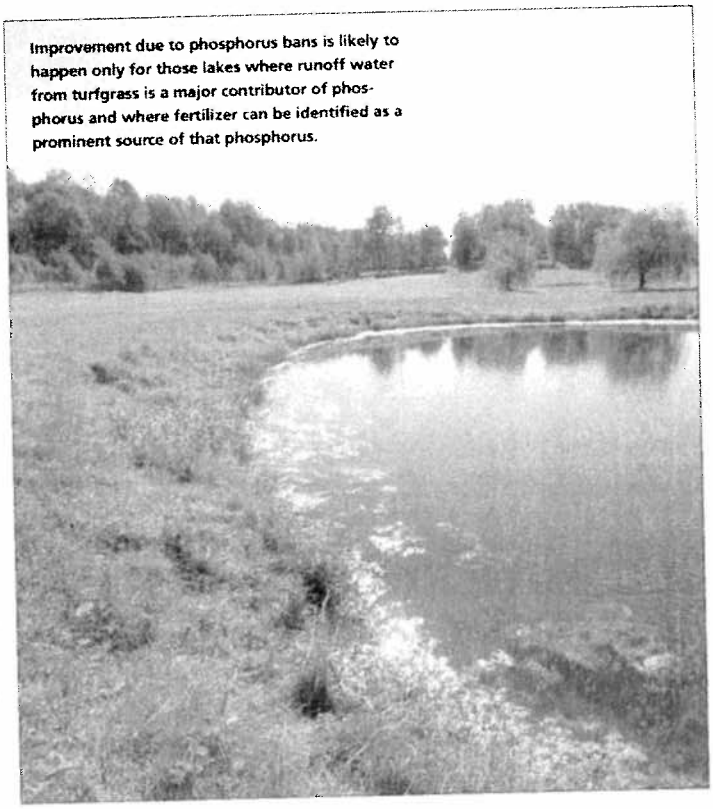
Editor's note: This is the final installment in a series of articles on the science behind phosphorus bans increasingly being proposed in state legislatures.

By Wayne Kussow

When passing statewide restrictions on phosphorus applications on turfgrass in 2002, Minnesota legislators had the foresight to mandate the state's Department of Agriculture submit a report to the legislature by January 15, 2007 on the effectiveness of the legislation. As stated in that report, "Changes in water quality resulting from the law have not been documented at this time."

The report said phosphorus (P) runoff data gathered following the fertilizer restrictions were too variable from year to year to indicate "short-term" (five year) trends in water quality.

A Dane County, Wisconsin ordinance regulating P application on lawns took effect in January 2005. The Dane County Lakes Commission reported in late 2007 there was no evidence at that time of improvements in lake water quality.



Improvement due to phosphorus bans is likely to happen only for those lakes where runoff water from turfgrass is a major contributor of phosphorus and where fertilizer can be identified as a prominent source of that phosphorus.

"The experiences of Minnesota and Wisconsin cast doubt on the general effectiveness of [phosphorus] bans."

Bans' Effectiveness Doubtful

The experiences of Minnesota and Wisconsin cast doubt on the general effectiveness of P bans. They do not exclude the possibility that in some instances P regulations will improve surface water quality. But improvement due to P bans is likely to happen only for those lakes where runoff water from turfgrass is a major contributor of P and where fertilizer can be identified as a prominent source of that P.

Science, however, tells us instances where all these preconditions exist are likely rare.

Given the experience to date with lawn P bans, it seems reasonable to suggest all such bans should include a sunset clause invoked when there is no evidence of the ban's effectiveness. Current experience suggests sunset clauses should be set at 10 years.

Dark Side of Bans

Depending on how lawn P bans are crafted, they can have an insidious effect. Enforcement is often and almost universally in the hands of private citizens, as the authorities rely on complaints filed with some designated unit of government.

This approach to enforcement tends to pit neighbor against neighbor.

The Dane County, Wisconsin ordinance prohibits vendor display of lawn fertilizers containing P. One interpretation of this restriction is that the crafters of the ordinance did not trust the sellers and buyers of lawn fertilizers to abide by the ordinance. It also obscures the fact that fertilizers containing phosphorus can be sold and used if soil tests indicate a need for the nutrient.

The requirement that P-containing fertilizers be hidden in a back room helps instill in the minds of citizens the notion that P is very nasty stuff. Such a restriction embodies government distrust of business and disrespect for the intelligence of private citizens.

Opposite Effect

Phosphorus bans can have unintended consequences, leading to increased P loads in runoff water instead of the intended decreases. The bans discourage soil testing and encourage blind application of "phosphorus-free" fertilizers.

Wisconsin research has shown for medium-textured soils, not applying P leads to an annual 2.3 parts per million decrease in soil test P. Deficiencies will eventually develop and lead to reductions in lawn quality. Given that the density of lawn cover helps the grassy area retain water, research indicates the end result of such bans will be increases in runoff water volumes and, ironically, higher P loads in nearby bodies of water.

Researchers have been given opportunities to present in public forums their perspectives on whether P bans will achieve their intended purpose. They have presented extensive evidence showing P bans will not be nearly as effective as ban advocates have touted them to be.

Unfortunately, the science is routinely being ignored in the final deliberations, leading to passage of ordinances and laws that regulate P applications on turfgrass.

Science Versus Politics

One of the prime reasons for that dynamic is that these decisions are being made by elected government officials.

Put yourself in their place for a moment. Your constituency is very publicly insisting something be done to improve and protect lake water quality. Even though you may not be fully convinced a P ban will be effective, it comes at no or very little direct cost of tax dollars and might placate your constituents.

Under these circumstances, it's easy to see why lawmakers might support regulation or banning of P applications on turfgrass, even though the science suggests the law might actually be counterproductive.

No Single Action Suffices

Science can lead the way in the development and implementation of actions holding high promise for improving and protecting surface water quality, but each body of water must be treated as an individual occupying a particular position in the landscape. Research is needed to quantify the P dynamics of the lake, establish what changes are required to improve water quality, and identify and quantify all P inputs.

Then and only then can strategies be developed that have a high probability of achieving the desired goal.

Unfortunately, all of this costs money—often lots of money—because multiple, coordinated actions across several government jurisdictions are often required.

A single action such as a P ban is not the answer.

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