

Report Summary:

Effectiveness of the Minnesota Phosphorus Lawn Fertilizer Law

Minnesota Department of Agriculture reports on phosphorus lawn fertilizer restrictions three years after their inception.

The Minnesota Phosphorus Lawn Fertilizer Law directed the Minnesota Commissioner of Agriculture to report in 2007 on the effectiveness of phosphorus lawn fertilizer restrictions. That report, *Effectiveness of the Minnesota Phosphorus Lawn Fertilizer Law*, was completed March 15, 2007.

A summary of the report follows. A full copy of the report and details on the Minnesota Phosphorus Lawn Fertilizer Law are available at: www.mda.state.mn.us/phoslaw.

The Minnesota Phosphorus Lawn Fertilizer Law regulates the use of phosphorus lawn fertilizer with the intent of reducing unnecessary phosphorus fertilizer use and preventing enrichment of rivers, lakes, and wetlands with the nutrient phosphorus. The law prohibits use of phosphorus lawn fertilizer unless new turf is being established or a soil or tissue test shows need for phosphorus fertilization. This prohibition went into effect in 2004 in the Twin Cities metro area and statewide in 2005. The law also requires fertilizer of any type to be cleaned up immediately if spread or spilled on a paved surface, such as a street or driveway.



A “zero in the middle” means phosphorus-free.

Report’s findings:

Phosphorus-free lawn fertilizer is readily available

In an October 2006 statewide survey of 87 stores, phosphorus-free lawn fertilizer was found in 97% of stores. Phosphorus-free lawn fertilizer in pesticide blends was found in 77% of stores. Organic phosphorus-free lawn fertilizer, although offered by several manufacturers, was found only in 3% of stores.

The law has reduced phosphorus lawn fertilizer use

Use of lawn fertilizers¹ containing phosphorus was found to decrease 38% between 2003 and 2006. In 2006, 82% of lawn fertilizer used was phosphorus-free (see chart on next page). The amount of phosphorus contained in lawn fertilizer used decreased from 292 tons in 2003 to 151 tons in 2006.

The law has not increased consumer cost

In a comparison of similar lawn fertilizer products in two neighboring states, cost of phosphorus-free lawn fertilizer was found to be the same as lawn fertilizer which contain maintenance levels of phosphorus.

No enforcement of the law has been reported

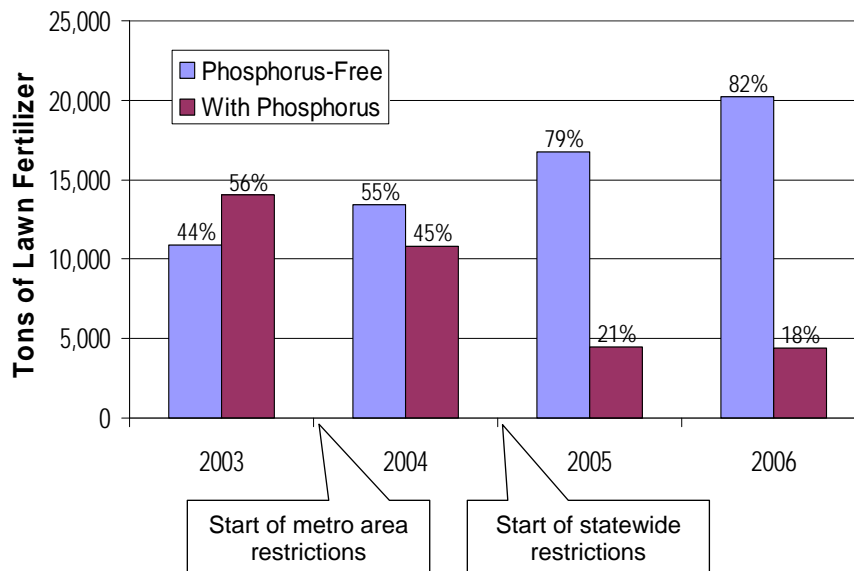
The law was written to be enforced by local units of government. No enforcements of the law were reported in a statewide survey of city staff.

Consumers supportive of the law

Based on interviews with retail store staff, customers are very supportive of the law. The major consumer question received by the Minnesota Department of Agriculture was how to dispose of leftover phosphorus lawn fertilizer once restrictions took effect.

¹ Lawn fertilizer use estimated by analyzing annual records of specialty fertilizer distributed in Minnesota.

Phosphorus and phosphorus-free lawn fertilizer used² statewide



Fertilizer manufacturers and retailers have adapted to the law

Formulating new phosphorus-free fertilizer products was not a problem for fertilizer manufacturers. Challenges were encountered, however, with registering, inventorying, labeling, and marketing new products. Stores reported no problems in stocking phosphorus-free product, although some specific brands or products were not initially available in phosphorus-free formulations.

Changes in water quality have not been documented at this time

Changes in water quality resulting from the law have not been documented at this time. Available phosphorus runoff data from Twin Cities streams are too variable in the years following phosphorus lawn fertilizer restrictions to indicate short-term trends in water quality.

Law was focus for extensive public and professional education

The law created a “teachable moment” about yard care and water quality protection. Coalitions of agencies and organizations came forward to provide extensive education on the law to the general public and professionals.

Two research studies underway – more needed

Two Minnesota studies on nutrient runoff from lawns are in process with final reports and papers expected in 2007. These studies will broaden the understanding of the law’s impact on water quality. The need for additional research on the law’s water quality and turf management impacts was noted.

Other states poised to follow Minnesota’s lead

Currently Minnesota is the only state regulating the use of phosphorus fertilizer on lawns and turf. Phosphorus regulating rules or legislation is advancing in four states, Florida, Maine, Michigan, and Wisconsin, all of which have used the Minnesota law as a reference.



Lawn fertilizer being manufactured at Form-A-Feed, Steward, MN.

² Lawn fertilizer use estimated by analyzing annual records of specialty fertilizer distributed in Minnesota.

Report recommendations:

The report found that in three years, the Minnesota Phosphorus Lawn Fertilizer Law has substantially reduced phosphorus lawn fertilizer use and provided a focus point for extensive yard care and water quality education. The report recommended investigating the following opportunities:

Further research into law's impacts:

Quantify law's impact on water quality: Cities involved in Total Maximum Daily Load (TMDL) water quality planning are asking for quantifiable values for phosphorus runoff reduction that can be assigned to the law and other yard care practices. Those values currently are not available.

Expanding on current turfgrass runoff studies is needed to provide TMDL information to water quality planners. Phosphorus contributions to runoff from soil erosion, grass clippings, animal waste, and tree leaves and seeds need to be evaluated in addition to phosphorus contributions from lawn fertilizer use.

Quantify law's impact on turf management: The premise of the law is that soils already high in phosphorus do not need further phosphorus fertilization. There are soils in the state which are not naturally high in phosphorus and could develop phosphorus deficiencies over time due to phosphorus-free fertilizer use. Lawns deficient in phosphorus can lead to poor turfgrass health, which can result in increased soil erosion and nutrient runoff into surface water.

To avoid unintended consequences of phosphorus-free fertilizer use, an assessment of lawn and turf soil fertility should be conducted to detect early trends in low phosphorus levels. Studies on the nature of turfgrass health decline on phosphorus deficient soils should also be conducted.

Further outreach education:

General public education: Continued public education is needed to reinforce messages and to reach new state residents and individuals caring for a lawn for the first time. Point-of-sale information needs to be provided to fertilizer distributors and retail stores to assist in consumer education.

Education for turfgrass professionals and retail store staff: In addition to applying lawn fertilizer themselves, lawn service providers and retail staff are a major source of consumer information. Better informed professionals will result in a better informed public.

Soil testing education: Outreach education on soil testing methods needs to be provided to homeowners to enable them to detect low phosphorus soil conditions before declines in turfgrass health occur.

For the full report or more information:

Visit: www.mda.state.mn.us/phoslaw;

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