OLR RESEARCH REPORT

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STATE LAWS BANNING PHOSPHORUS FERTILIZER USE

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You asked for a summary of (1) environmental concerns about using fertilizer containing phosphorus and (2) state laws that ban its use.

SUMMARY

Phosphorus is a naturally occurring mineral nutrient that is necessary for plant growth. It is an essential part of photosynthesis and helps plants to mature properly.

But high phosphorus levels in water bodies can lead to excessive algae and aquatic plant growth which can harm aquatic life and impair recreational use. It can cause toxic algae blooms, reduce water clarity, and deplete oxygen levels. Low water oxygen levels can stress or kill fish and other aquatic animals, among other things.

A library search generated 11 states that ban phosphorus fertilizer use or sale; all laws passed in the last 10 years.

Generally, these laws prohibit phosphorus fertilizer application unless it is for (1) curing a lack of necessary phosphorus, (2) establishing new turf, or (3) repairing turf. Many also exempt agricultural uses, commercial or sod farms, gardening, and golf courses. Most of the states prohibit fertilizer application on impervious, frozen, or saturated surfaces. Other provisions included in some states' laws are (1) setbacks from water bodies such as lakes or rivers, and (2) sales restrictions such as displaying phosphorus fertilizer separately from other types of fertilizers and posting cautionary information.

A twelfth state, Florida, requires certain local governmental units to adopt a model ordinance restricting fertilizer use and encourages other units to do the same. The model ordinance bans applying fertilizer containing nitrogen or phosphorus during a “prohibited application period.”

ENVIRONMENTAL CONCERN

Nutrients such as phosphorus and nitrogen are essential, naturally occurring elements for plant growth but increased levels of these nutrients can jeopardize water quality. Sewage discharges and fertilizer runoff containing phosphorus contribute to increased nutrient water levels. Runoff or leaching into groundwater can occur when fertilizer is applied at times when (1) it can be removed by rainfall or snowmelt, or (2) land or crops cannot absorb the nutrients.

High concentrations of phosphorus or nitrogen in water bodies can lead to excessive algae and aquatic plant growth (a process called eutrophication) which can impair aquatic life and recreational use. It can cause algae blooms, reduce water clarity, and deplete oxygen levels that can stress or kill fish and other

aquatic animals (a condition called hypoxia). According to a Virginia Cooperative Extension report discussing environmental impacts from agricultural phosphorus use, eutrophication can (1) cause fish kills or harm wildlife and livestock by reducing water oxygen content or producing toxins and (2) increase the cost and difficulty of drinking water purification. Decaying algae also produces surface scum, odor, and leads to increased insect populations.

A 2010 interagency report of the National Science and Technology Council's Committee on Environment and Natural Resources (in which the U.S. Environmental Protection Agency (EPA) participated) warns that declining oxygen levels in U.S. waters are forming low-oxygen "dead zones" and destroying habitats. In Region 1 specifically (which includes Connecticut), EPA requires wastewater discharge permits to include phosphorus limits where a discharge may degrade water quality. Connecticut's Department of Energy and Environmental Protection (DEEP) identifies nutrient enrichment as a major water quality issue, highlighting the fact that EPA has emphasized aggressive action to limit phosphorus discharge to surface waters. According to DEEP, there are 21 identified water body segments in the state where nutrient enrichment is contributing to water impairment.

PHOSPHORUS FERTILIZER BANS

At least 11 states ban phosphorus fertilizer use or sale: Illinois, Maine, Maryland, Michigan, Minnesota, New Jersey, New York, Vermont, Virginia, Washington, and Wisconsin.

In general, these states prohibit phosphorus fertilizer application unless it is for (1) curing a lack of necessary phosphorus, (2) establishing new turf, or (3) repairing turf. Many states exempt agricultural lands and production, commercial or sod farms, gardening, or golf courses from the ban. And many prohibit applying fertilizer (not only phosphorus fertilizer) on impervious, frozen, or saturated surfaces, or within a certain distance of a water body. Inadvertent application on impervious surfaces must be removed or cleaned up. Some states also have phosphorus fertilizer sale restrictions such as separately displaying phosphorus fertilizer and posting cautionary information.

Table 1 summarizes the primary elements of each state's ban. It does not provide enforcement and penalty information or discuss applying certain manures to land or soil, which many states allow. Some of these state laws prohibit local governmental units from adopting more restrictive requirements, with some exceptions. And some laws require the state to provide consumers with information such best practices for phosphorus lawn fertilizer and restrictions on use. For this and other information, the table provides a link to each state law.

Florida law requires certain counties and municipalities located in nutrient-impaired watersheds to adopt the state's model ordinance for any fertilizer use in urban landscapes and may adopt more stringent standards if certain conditions are met. The law encourages other counties and municipalities to adopt the ordinance or an equivalent. Among other things, the Model Ordinance for Florida-Friendly Fertilizer Use on Urban Landscapes (1) establishes fertilizer content and application rates; (2) bans applying fertilizer containing phosphorus or nitrogen to saturated soils, impervious surfaces, or during a "prohibited application period"; (3) establishes a three-foot to ten-foot setback for application near water sources such as streams, lakes, or wetlands; and (4) exempts agriculture.

Table 1: Comparison of Phosphorus Lawn or Turf Fertilizer Bans

	Illinois (415 ILCS 65)	Maine (38 MRSA § 419)	Maryland (Md Laws § 6-201 et seq. and § 8-801 et seq.)	Michigan (MLCA § 324.8501 et seq.)	Minnesota (MSA statute § 18C.60 et seq.)	New Jersey (NJSA 58:10A-61 et seq.; 4:9-15.13a)	New York (ECL § 17-2101 et seq.)	Vermont (10 VSA § 1266b)	Virginia (VA Code § 3.2-3600 et seq. and § 10.1-104.5 et seq.)	Washington (RCWA 15.54.500)	Wisconsin (WSA 94.643)
Year passed/effective dates:	2010/2010	2007/2008	2011/2011-2013	2010/2012	2002/2004	2010/2011, 2013	2010/2012	2011/2011, 2012	2011/2013	2011/2013	2009/2010

Applicators affected:	“Applicator for hire” (licensed commercial, certified applicators, and others)	All persons	Everyone	All persons	All persons	All persons	All persons	All persons	All persons	All persons	All persons
Exempt applicators and allowed Phosphorus fertilizer use:	Golf courses; Commercial and Sod farms; Agricultural lands and production; Right-of-ways; Phosphorus deficiency; Establish new turf; Lawn repair	Agriculture; Phosphorus deficiency; Establish new turf; Sod farms; Turf repair; Gardening	Agricultural purposes; Commercial and Sod farms; Phosphorus deficiency; Establish new turf; Turf repair	Golf courses; Commercial farm land; Phosphorus deficiency; Establish new turf	Golf courses; Sod farms; Agricultural lands and production; Phosphorus deficiency; Establish new turf	Golf courses; Commercial Farms; Phosphorus deficiency; Establish new turf; Turf repair	Gardens; Agricultural lands and production; Sod farms; Phosphorus deficiency; Establish new turf	Golf courses; Sod farms; Agricultural lands and production; Phosphorus deficiency; Establish new turf	Phosphorus deficiency; Establish new turf; Turf repair; Agricultural use; Gardening; Golf courses management plan	Establish new turf; Turf repair; Phosphorus deficiency; Gardens; Sod farms; Agricultural land or production	Sod farms; Agricultural land and production; Phosphorus deficiency; Establish new turf
Application to paved or impervious surfaces:	Prohibited, must clean up if inadvertent	No restrictions	Prohibited	Must clean up if applied	Prohibited, must clean up if applied	Prohibited, must clean up if inadvertent	Prohibited, must clean up if applied	Prohibited, must clean up if applied	Package label prohibits certain uses	Prohibited	Prohibited, must clean up if inadvertent
Setbacks from water (buffer):	3 ft to 15 ft setback	None	10 ft to 15 ft setback	3 ft to 15 ft setback	None	10 ft to 15ft setback	3 ft to 20 ft setback	25 ft setback	None	None	None
Application on frozen and saturated soils:	Prohibited	No restrictions	Prohibited from Nov. 16 to Feb. 29 or on frozen ground	Prohibited	No restrictions	Prohibited during heavy rain or when predicted, on saturated or frozen ground, or from Nov. 16 - Feb. 29 (Dec. 2 - Feb. 29 for professionals)	Prohibited between Dec. 1 and Apr. 1	Prohibited from Oct. 16 to Mar. 31 or on frozen ground	Package label prohibits certain uses	Prohibited on frozen ground	Prohibited on frozen ground
Restrictions on Phosphorus lawn fertilizer sales:	No restrictions	Post signs about fertilizer use at point of sale	Must sell low Phosphorus fertilizer for lawns unless organic and sold to professional	No restrictions	No restrictions	Sale prohibited to consumers unless for deficiency, new turf, or turf repair	Display Phosphorus fertilizer separately; Post educational signs	Display Phosphorus fertilizer separately; Post educational signs	Sale of lawn maintenance fertilizer prohibited; Can sell existing stock	Sale prohibited unless for an allowed use and properly labeled; Can sell existing stock	No display but may post sign; Must sell only for specific purposes