



## Fast Track Proposed Regulation Agency Background Document

<b>Agency name</b>	Department of Conservation and Recreation
<b>Virginia Administrative Code (VAC) citation</b>	4 VAC5-15
<b>Regulation title</b>	Nutrient Management Training and Certification Regulations
<b>Action title</b>	The 2012 General Assembly, in §10.1-104.2:1 of the Code of Virginia, directed the Department to adopt regulations that amend turf fertilizer application rates in the Virginia Nutrient Management Standards and Criteria, which is a document incorporated by reference in 4VAC5-15 et seq. Section 10.1-104.2:1 of the Code further requires that the adoption of these regulatory changes “shall follow a fast-track regulatory process” and “shall be adopted no later than July 1, 2014.”
<b>Date this document prepared</b>	June 26, 2013

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 14 (2010) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

### Brief summary

*Please provide a brief summary (no more than 2 short paragraphs) of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes.*

As part of Commonwealth’s efforts to reduce nutrient pollution to state waters, House Bill 1210 (Chapter 796 of the 2012 Virginia Acts of Assembly) amended § 10.1-104.2:1 of the Code of Virginia to require the Department, through a regulatory action, to amend the Virginia Nutrient Management Standards and Criteria “by “incorporating into such regulations the recommended application rates for nitrogen in lawn fertilizer and lawn maintenance fertilizer and the recommended application rates for "slow or controlled release fertilizer" and "enhanced efficiency lawn fertilizer," as such terms are defined and adopted or proposed for adoption by the American Association of Plant Food Control Officials, as described in the Virginia Department

of Agriculture and Consumer Services' December 2011 "Report on the Use of Slowly Available Nitrogen in Lawn Fertilizer and Lawn Maintenance Fertilizer." Furthermore, § 10.1-104.2:1 of the Code of Virginia also requires that the amendments of the regulation “follow a fast a fast-track regulatory process established pursuant to § [2.2-4012.1](#) of the Administrative Process Act and shall be adopted no later than July 1, 2014.”

This fast-track regulatory action does not amend the text contained in 4VAC5-15 et seq. other than changing the date references embedded in the regulatory text for the Virginia Nutrient Management Standards and Criteria (Standards and Criteria) document from October 2005 to July 2014. This regulatory action primarily addresses amendments to the Standards and Criteria document, which is a document incorporated by reference in the regulation. The proposed amendments to the Standards and Criteria document only address Section VI, which is titled “Turfgrass Nutrient Recommendations for Home Lawns, Office Parks, Public Lands and Other Similar Residential/Commercial Grounds.” The amendments to this section incorporate the recommended fertilizer application rates contained in the December 2011 report and pertinent definitions from the American Association of Plant Food Control Officials (AAPFCO).

**Acronyms and Definitions**

*Please define all acronyms used in the Agency Background Document. Also, please define any technical terms that are used in the document that are not also defined in the “Definition” section of the regulations.*

- AAPFCO - American Association of Plant Food Control Officials
- DCR - Department of Conservation and Recreation
- Standards and Criteria - Virginia Nutrient Management Standards and Criteria
- TAC - Technical advisory committee
- VDACS - Department of Agriculture and Consumer Services

A list of applicable definitions may also be found in 4VAC5-15-10 of the Nutrient Management Training and Certification Regulations and in Section VI of the Virginia Nutrient Management Standards and Criteria as amended by this action.

**Statement of final agency action**

*Please provide a statement of the final action taken by the agency including (1) the date the action was taken, (2) the name of the agency taking the action, and (3) the title of the regulation.*

On June 26, 2013, the Director of the Department of Conservation and Recreation (DCR) approved this fast-track regulatory action to amend 4VAC5-15 et seq., the Department’s Nutrient Management Training and Certification Regulations, which includes documents incorporated by reference.

**Legal basis**

*Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant citations to the Code of Virginia or General Assembly chapter number(s), if*

applicable, and (2) promulgating entity, i.e., agency, board, or person. Your citation should include a specific provision authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency/board/person's overall regulatory authority.

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The Code of Virginia, §10.1-104.2:1, states the following:

§ [10.1-104.2:1](#). Nitrogen application rates; regulations.

A. The Department shall adopt regulations that amend the application rates in the Virginia Nutrient Management Standards and Criteria by incorporating into such regulations the recommended application rates for nitrogen in lawn fertilizer and lawn maintenance fertilizer and the recommended application rates for "slow or controlled release fertilizer" and "enhanced efficiency lawn fertilizer," as such terms are defined and adopted or proposed for adoption by the American Association of Plant Food Control Officials, as described in the Virginia Department of Agriculture and Consumer Services' December 2011 "Report on the Use of Slowly Available Nitrogen in Lawn Fertilizer and Lawn Maintenance Fertilizer."

B. Such regulations shall follow a fast-track regulatory process established pursuant to § [2.2-4012.1](#) of the Administrative Process Act and shall be adopted no later than July 1, 2014.

The referenced document, titled *Report on the use of slowly available nitrogen in lawn fertilizer and lawn maintenance fertilizer*, may be found at:

[http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD3962011/\\$file/RD396.pdf](http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD3962011/$file/RD396.pdf)

### Purpose

*Please explain the need for the new or amended regulation. Describe the rationale or justification of the proposed regulatory action. Detail the specific reasons the regulation is essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal and the problems the proposal is intended to solve.*

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Enactment clause 3 of House Bill 1831 (Chapter 341 of the 2011 Virginia Acts of Assembly) stated “[t]hat the Department of Agriculture and Consumer Services shall provide, no later than December 15, 2011, a report to the House Committee on Agriculture, Chesapeake and Natural Resources and the Senate Committee on Agriculture, Conservation and Natural Resources concerning the use of slowly available nitrogen in lawn fertilizer and lawn maintenance fertilizer. The report shall (i) conduct an assessment of the most effective means to encourage the use of slowly available nitrogen in lawn fertilizer and lawn maintenance fertilizer, (ii) determine the most appropriate percentages of slowly available nitrogen to be included in lawn fertilizer and lawn maintenance fertilizer, (iii) recommend the most appropriate effective date for any change, (iv) calculate the costs to the manufacturer and consumer, and (v) provide a review of any other issues related to the use of slowly available nitrogen in lawn fertilizer and lawn maintenance fertilizer. The Department shall consult with the Department of Conservation and Recreation and the Chesapeake Bay Commission and, at the Department's discretion, may convene a technical advisory committee of stakeholders concerning the development and content of the report.”

In response to this legislative mandate, the Department of Agriculture and Consumer Services (VDACS) convened a technical advisory committee (TAC), which included, among others, the Department of Conservation and Recreation (DCR) and the Chesapeake Bay Commission. The TAC met three times during the summer of 2011 and VDACS issued a report to the General Assembly in December of 2011. (*Report on the use of slowly available nitrogen in lawn fertilizer and lawn maintenance fertilizer*:

[http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD3962011/\\$file/RD396.pdf](http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD3962011/$file/RD396.pdf))

The report contained the following:

The recommended application rates for nitrogen in lawn fertilizer and lawn maintenance fertilizer are as follows:

- No more than 0.7 pounds per 1,000 square feet of readily available nitrogen, as defined by AAPFCO, during any given 30 day period
- No more than 0.9 pounds per 1,000 square feet of total nitrogen on cool season grasses during any given 30 day period
- No more than 1.0 pound per 1,000 square feet of total nitrogen on warm season grasses during any given 30 day period

The recommended application rates for “Slow or Controlled Release Fertilizer,” and for “Enhanced Efficiency” lawn maintenance fertilizer, as defined and adopted or proposed for adoption by AAPFCO, are as follows:

- No more than 2.5 pounds of nitrogen per 1,000 square feet per application, with a release rate of no more than 0.7 pounds of nitrogen per 1,000 square feet per 30 days
- The total annual application rate shall not exceed 80% of the nitrogen rates recommended for cool or warm season grasses in the Virginia Nutrient Management Standards and Criteria

Finally, the TAC recommends that the target effective date for the implementation of the recommended application rates and amendments to the Code of Virginia be July 1, 2014.

Legislation passed by the 2012 General Assembly and signed by the Governor amended the Code (§ [10.1-104.2:1](#)) to require that the Department incorporate the report’s recommended applications rates in the Standards and Criteria documents incorporated by reference in 4VAC5-15 and utilize a fast-track regulatory process to adopt the change by July 1, 2014.

**Rationale for using fast track process**

*Please explain the rationale for using the fast track process in promulgating this regulation. Why do you expect this rulemaking to be noncontroversial?*

*Please note: If an objection to the use of the fast-track process is received within the 30-day public comment period from 10 or more persons, any member of the applicable standing committee of either house of the General Assembly or of the Joint Commission on Administrative Rules, the agency shall (i)*

*file notice of the objections with the Registrar of Regulations for publication in the Virginia Register, and (ii) proceed with the normal promulgation process with the initial publication of the fast-track regulation serving as the Notice of Intended Regulatory Action.*

The proposed changes to the Standards and Criteria amend only one of the nine sections of this document. The changes made to the Standards and Criteria are expected to be noncontroversial and the changes incorporate the recommendations made by the 2011 TAC convened by VDACS and mandated for incorporation by state law through a fast-track action in accordance with § 10.1-104.2:1 of the Code of Virginia.

Membership on the 2011 TAC, established by VDACS, included representatives from: 1) DCR; 2) the Chesapeake Bay Commission; 3) the Chesapeake Bay Foundation; 4) Agrium Advanced Technologies.; 5) Responsible Industry for a Sound Environment (RISE); 6) Scotts Miracle-Gro; 7) Southern States; 8) University of Florida; 9) Virginia Agribusiness Council; 10) Virginia Cooperative Extension; 11) Virginia Crop Production Association; 12) Virginia Farm Bureau; 13) Virginia Green Lawn Care; 14) Virginia Nursery and Landscape Association; 15) Virginia Association of Soil and Water Conservation Districts; 16) Virginia Tech Crop and Soil Environmental Sciences; and 17) the Virginia Turfgrass Council. The TAC concluded its meetings in September of 2011, and after that time, the Chesapeake Bay Commission, in conjunction with industry representatives, initiated further discussions that led to the recommendations contained in the report published in December of 2011. Consequently, it is the Department's understanding that the recommendations have been shared with members of the TAC and with members of the General Assembly and that the changes proposed by the Department in this regulatory action address those recommendations.

## Substance

*Please briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. (Provide more detail about these changes in the "Detail of changes" section.) Please be sure to define any acronyms.*

The amendments to the existing regulations advanced by this regulatory action are made in the following sections of the Nutrient Management Training and Certification Regulations (4VAC5-15):

- 4VAC5-15-15 (Definitions) and 4VAC5-15-150 (Required nutrient management plan procedures) – The reference to the current Standards and Criteria document that is incorporated by reference is changed from October 2005 to July 2014.
- Documents Incorporated by Reference – The version date for the Standards and Criteria document is changed from October 2005 to July 2014. Section VI (Turfgrass Nutrient Recommendations for Home Lawns, Office Parks, Public Lands and Other Similar Residential/Commercial Grounds) is one of eight sections within the Standards and Criteria. Only changes to Section VI are being made and no other sections within that document are being amended by this regulatory action.

The amendments to Section VI address the recommendations contained in the 2011 report from the Virginia Department of Agriculture and Consumer Services in response to the legislative mandate contained in § 10.1-104.2:1 of the Code of Virginia.

The proposed amendments conform the Standards and Criteria to the requirements of the Code and the recommendations contained in the 2011 VDACS’ report and they also ensure consistency with the labeling standards for slowly available nitrogen that are contained in § 3.2-3607 (G) of the Code of Virginia. The Department recommends an effective date for the amended Standards and Criteria of July 1, 2014. This effective date is also consistent with § 3.2-3607 (G) of the Code.

**Issues**

*Please identify the issues associated with the proposed regulatory action, including:*

- 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions;*
- 2) the primary advantages and disadvantages to the agency or the Commonwealth; and*
- 3) other pertinent matters of interest to the regulated community, government officials, and the public.*

*If there are no disadvantages to the public or the Commonwealth, please indicate.*

The proposed changes to the Standards and Criteria document comport with the Code of Virginia to address a legislative mandate to incorporate into regulation the following: 1) recommended applications rates for nitrogen in lawn fertilizer and lawn maintenance fertilizer; 2) recommended application rates for nitrogen in lawn fertilizer and lawn maintenance fertilizer; and 3) recommended application rates for "slow or controlled release fertilizer" and "enhanced efficiency lawn fertilizer." There are no known disadvantages to the public or to the Commonwealth.

The changes enacted through this regulatory action have been advanced in order to improve water quality in state waters across the Commonwealth through nutrient reductions. When the enacting legislation was introduced in 2012, the Department estimated that the change in recommended application rates could amount to as much as 164,000 pounds of nitrogen reductions if applied to all pervious developed areas (approximately 1.2 million acres). Controls on fertilizer use and the resulting nitrogen reductions advanced through this regulatory action may result in fewer post-construction controls required of the homebuilding industry and will advance the economic gains associated with recreational and commercial use of Virginia’s aquatic resources.

**Requirements more restrictive than federal**

*Please identify and describe any requirement of the proposal which is more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.*

There are no applicable federal requirements; however, such nutrient reductions will assist the Commonwealth in achieving necessary nutrient reductions required by federally approved total maximum daily loads.

**Localities particularly affected**

*Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.*

No locality would be disproportionately affected by the proposed changes to the regulations and the Standards and Criteria that are incorporated by reference.

**Regulatory flexibility analysis**

*Pursuant to §2.2-4007.1B of the Code of Virginia, please describe the agency’s analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.*

The regulations do not adversely affect small businesses as the recommendations formulated in the report of the VDACS have been published since 2011 and were the result of stakeholder input. The Code of Virginia mandates that the Department utilize a fast-track regulatory process to adopt lawn fertilizer application rates as specified in a December 2011 report. No additional deadlines or reporting requirements are proposed.

**Economic impact**

*Please identify the anticipated economic impact of the proposed new regulations or amendments to the existing regulation. When describing a particular economic impact, please specify which new requirement or change in requirement creates the anticipated economic impact. Please keep in mind that we are looking at the impact of the proposed changes to the status quo.*

<p><b>Description of the individuals, businesses or other entities likely to be affected (positively or negatively) by this regulatory proposal.</b> Think broadly, e.g., these entities may or may not be regulated by this board</p>	<p>Manufacturers and distributors of fertilizer products are not expected to be affected by this regulatory action. According to VDACS, manufacturers have produced slow nitrogen release fertilizers for several years and are not expected to have to modify their formulations or implement new manufacturing processes. Large manufacturers with a national presence</p>
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	<p>already deal with states such as Maryland and Florida that have similar standards that are already in effect. Consequently, products addressing the application rates in this regulatory action are already available on the market.</p>
<p><b>Agency’s best estimate of the number of (1) entities that will be affected, including (2) small businesses affected.</b> Small business means a business, including affiliates, that is independently owned and operated, employs fewer than 500 full-time employees, or has gross annual sales of less than \$6 million.</p>	<p>The Department cannot estimate the exact number of entities affected but neither small or large businesses should be adversely affected as the study recommendations were developed based on stakeholder input two years ago and manufacturers typically comply with labeling standards that are consistent with AAPFCO definitions.</p>
<p><b>Benefits expected as a result of this regulatory proposal.</b></p>	<p>From an environmental perspective, the proposed application rates should result in significant reductions in the amount of excess nutrients that run off into the state waters of the Commonwealth. When properly observed, the revised application rates should reduce the amount of fertilizer that homeowners apply to their lawns, which in turn should correlate to savings in annual lawn maintenance costs.</p> <p>Other potential benefits include:</p> <ol style="list-style-type: none"> <li>1) Benefit to consumer. Recommendations are 30% less than what they were previously and should correlate to a savings in annual lawn maintenance costs.</li> <li>2) Benefit to the environment. There are 1.6 million acres of turf in the Commonwealth, 60% of which is fertilized. The recommendations lower the amount of water soluble nitrogen applied at one time so there should be a reduction in the risk of nitrogen loss to the environment.</li> <li>3) Benefit to the environment. The recommendations have been revised to encourage more use of slow release fertilizer. Using more slow release fertilizer to make nitrogen applications reduces the risk of nitrogen loss to the environment.</li> </ol>
<p><b>Projected cost to the <u>state</u> to implement and enforce this regulatory proposal.</b></p>	<p>There will be a minimal cost to the Department to train industry personnel and to produce new</p>



	Standards and Criteria documents. These costs can be absorbed within existing resources.
<b>Projected cost to <u>localities</u> to implement and enforce this regulatory proposal.</b>	No additional costs to localities are projected.
<b>All projected costs of this regulatory proposal for <u>affected individuals, businesses, or other entities</u>.</b> Please be specific and include all costs, including projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses, and costs related to real estate development.	<p>As previously stated, there should be no additional costs to affected individuals, businesses, or other entities as industry (producers and distributors) has already adopted or will soon adopt manufacturing processes and labeling standards addressed in the 2011 VDACS’ study.</p> <p>It is also noteworthy that that the law implementing these changes specified that the new labeling requirements and application rates “shall not restrict the continued sale by retailers of any prohibited fertilizer from existing inventories in stock on July 1, 2014” thus eliminating any economic impacts associated with surplus inventories.</p>

**Alternatives**

*Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in §2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulation.*

No alternatives were considered as § [10.1-104.2:1](#) of the Code of Virginia mandates that the Department utilize a fast-track regulatory process to adopt lawn fertilizer application rates as specified in a December 2011 report issued by VDACS.

**Family impact**

*Please assess the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one’s spouse, and one’s children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.*

It is not anticipated that this regulatory change will have a direct impact on the institution of the family or family stability. However, improvement of water quality does have positive public health and safety benefits that have an indirect impact on families.

**Detail of changes**

*Please list all changes that are being proposed and the consequences of the proposed changes. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact. Please describe the difference between existing regulation(s) and/or agency practice(s) and what is being proposed in this regulatory action.*

*If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all differences between the pre-emergency regulation and this proposed regulation, and (2) only changes made since the publication of the emergency regulation.*

For changes to existing regulation(s) or regulations that are being repealed and replaced, use this chart:

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
4VAC5-15-10		Definitions	The date reference for the Standards and Criteria document is changed from October 2005 to July 2014.
4VAC5-15-150		Required nutrient management plan procedures	The date reference for the Standards and Criteria document is changed from October 2005 to July 2014.
DOCUMENTS INCORPORATED BY REFERENCE			The date reference for the Standards and Criteria document is changed from October 2005 to July 2014. Section VI (Turfgrass Nutrient Recommendations for Home Lawns, Office Parks, Public Lands and Other Similar Residential/Commercial Grounds) is one of eight sections within the Standards and Criteria. Only changes to Section VI are being made and no other sections are being amended with this regulatory action.

The Standards and Criteria (Section VI) is being amended in the following manner:

- *Definitions* – A new subsection of Section VI is added to provide definitions for the following terms: a) “water soluble nitrogen, “WSN”, or “readily available nitrogen”; b) “slow or controlled release fertilizer”; and c) “enhanced efficiency fertilizer.” All definitions added are consistent with the terminology used by AAPFCO. The Code of

Virginia (§ 10.1-104.2:1), as well as the 2011 VDACS study, require that the fertilizer application rates incorporated into these regulations be consistent with AAPFCO terms.

The proposed definition of “slow or controlled release fertilizer” and “enhanced efficiency fertilizer” also includes language indicating that both types of fertilizer must contain “a minimum of 15% slowly available forms of nitrogen”. This 15% standard is included because AAPFCO requires the following for slowly released plant nutrients: “No fertilizer label shall bear a statement that connotes or implies that certain plant nutrients contained in a fertilizer are released slowly over a period time, unless the slow release components are identified and guaranteed at a level of 15% of the total guarantee for that nutrient[s].” Furthermore, VDACS regulation [2 VAC 5-400-30] states the following based on AAPFCO labeling standards: “No fertilizer label shall bear a statement that connotes or implies the presence of a slowly available or slowly released plant nutrient unless the nutrient or nutrients are identified and guaranteed at a level of at least 15% of the total guarantee for that nutrient or nutrients.”

- *Recommended Season of Application For Nitrogen Fertilizers – Applies to all Turf* – One minor change to this subsection is being made to clarify that necessary applications of nitrogen during certain periods of the fall and winter are to be made at the given rate “within a 30-day period”.
- *Per Application Rates* – This subsection is being amended to describe the recommended application rates (as detailed in the 2011 VDACS report) related to cool season grasses and warm season grasses. For cool season and warm season grasses, no more than 0.7 pounds of water soluble nitrogen per 1,000 ft<sup>2</sup> can be applied within a 30-day period. For cool season grasses, no more than 0.9 pounds of total nitrogen per 1,000ft<sup>2</sup> within a 30-day period can be applied. For warm season grasses, no more than 1.0 pounds of total nitrogen per 1,000 ft<sup>2</sup> within a 30 day period can be applied. Minor edits for clarification and consistency of terms have been made.
- *Annual Application Rates for Home Lawns and Commercial Turf* – No changes to this subsection are proposed because this section refers to total annual applications of nitrogen, and total annual applications of nitrogen are not addressed in the 2011 study. Only annual application rates as they relate to “slow or controlled release fertilizer” or “enhanced efficiency” fertilizer are described in the VDACS’s report in terms of annual application rates. Minor edits for clarification and consistency of terms have been made.
- *Use of Slowly Available Forms of Nitrogen* – This subsection is amended to include the recommended application rates for slow or controlled release fertilizer or enhanced efficiency fertilizer sources. For cool season and warm season grasses, this subsection now includes the following language:
  - a. No more than 0.9 pounds of nitrogen per 1,000 ft<sup>2</sup> may be applied to cool season grasses within a 30-day period.
  - b. No more than 1.0 pounds of nitrogen per 1,000 ft<sup>2</sup> may be applied to warm season grasses within a 30-day period.

In order to ensure that the VDACS' study recommendation related to the application of water soluble nitrogen applied at no more than 0.7 pounds per 1,000 ft<sup>2</sup> over a 30-day period is followed and to ensure that recommended application rates for "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" are addressed, the following language is inserted in this subsection: "Provided the fertilizer label guarantees that the product can be used in such a way that it will not release more than 0.7 pounds of nitrogen per 1,000 ft<sup>2</sup> in a 30-day period, no more than 2.5 pounds of nitrogen per 1,000 ft<sup>2</sup> may be applied in a single application. Additionally, total annual applications shall not exceed 80 percent of the annual nitrogen rates for cool or warm season grasses."

In addition, tables that currently exist in the Standards and Criteria addressing maximum annual nitrogen rates when using 50 percent or greater water insoluble nitrogen are removed as these tables are not consistent with the recommendations contained in the 2011 VDACS' report and retaining these tables is also not consistent with the definitions of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" as defined in Section VI of the proposed amendments, where a 15 percent standard consistent with AAPFCO and VDACS' regulations is referenced.

Minor edits for clarification and consistency of terms have been made.

- *Phosphorus and Potassium Nutrient Needs (Established Turf)*— Minor edits for clarification and consistency of terms have been made.
- *Recommendations for Establishment of Turf*— No changes have been made as this subsection refers to recommended establishment periods.
- *Nitrogen Applications* — This subsection has been changed to address the VDACS' study recommended application rates for cool season grasses (0.9 pounds per 1,000 ft<sup>2</sup> of total nitrogen using a material containing slowly available forms of nitrogen) and for warm season grasses (1.0 pounds per 1,000 ft<sup>2</sup> of total nitrogen using slowly available forms of nitrogen). Please note that the slowly available forms of nitrogen are tied to the 15 percent standard in the definition of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer."

This subsection also modifies existing language related to the number of applications that may take place after planting. Currently, the Standards and Criteria state that not more than one pound of nitrogen per 1,000 ft<sup>2</sup> may be applied at planting (or establishment), followed by one to two more applications beginning 30 days after planting, not to exceed 2 pounds per 1,000 ft<sup>2</sup>. Therefore, at planting or establishment, there may be up to two applications of one pound not to exceed two pounds of nitrogen per 1,000 ft<sup>2</sup> (or 1 pound X 2 applications = 2 pounds). The proposed changes to this subsection apply this same methodology to the VDACS' study recommendations, which means that there cannot be more than 1.8 pounds per 1,000 ft<sup>2</sup> for cool season grasses (0.9 pounds X 2 applications = 1.8 pounds) or two pounds per 1,000 ft<sup>2</sup> for warm season grasses (1 pounds X 2 applications = 2 pounds).

This subsection also contains language consistent with the VDACS' study stating that applications of readily available nitrogen (or water soluble nitrogen) cannot exceed more than the recommended application rate of 0.7 pounds per 1,000 ft<sup>2</sup> within a 30-day period.

- *Phosphorus and Potassium Recommendations for Establishment* - Minor edits for clarification and consistency of terms have been made.
- *Nutrient Recommendations for Golf Courses*  
Nitrogen Timing – The nitrogen rate table in this part of the subsection has been modified to address the maximum application rates based upon a 30-day period for water soluble nitrogen, consistent with the VDACS' study. The tables address rates applicable to: a) greens and tees; b) fairways containing cool season and warm season grasses; and c) roughs. In addition, corresponding footnotes have been adjusted. Minor edits for clarification and consistency of terms have been made.

Fairways-Overseeding Warm Season Fairways – This part of the subsection has been changed to state that no more than 0.7 pounds of nitrogen per 1,000 ft<sup>2</sup> can be applied in a 30-day period and that applications of readily available nitrogen (or water soluble nitrogen) may not exceed 0.7 pounds per 1,000 ft<sup>2</sup> within a 30-day period.

This part of the subsection also adds a specific footnote related to greens and tees (consistent with the display of the nitrogen timing table) to state the recommended application rates for cool season grasses (0.9 pounds per 1,000 ft<sup>2</sup> of total nitrogen) and for warm season grasses (1.0 pounds per 1,000 ft<sup>2</sup> of total nitrogen), using a material containing slowly available forms of nitrogen. The existing footnotes related to normal and intensive management fairways have been amended in the same manner. Please note that the slowly available forms of nitrogen are tied to the 15 percent standards in the definition of “slow or controlled release fertilizer” and “enhanced efficiency fertilizer.”

Minor edits for clarification and consistency of terms have been made.

Phosphorus and Potassium Recommendations for Established Golf Courses - Minor edits for clarification and consistency of terms have been made.

Nitrogen Management on Athletic Fields – Cool Season Grasses – The table related to cool season grasses and the maintenance program for normal and intensive management has been modified to state that no more than 0.7 pounds of nitrogen per 1,000 ft<sup>2</sup> can be applied in certain specified months. The footnotes to this part of the subsection also state that 0.9 pounds per 1,000 ft<sup>2</sup> of total nitrogen can be applied using a material containing slowly available forms of nitrogen, as long as there is a minimum of 30 days between applications.

Please note that the slowly available forms of nitrogen are tied to the 15 percent standards in the definition of “slow or controlled release fertilizer” and “enhanced efficiency fertilizer.” In addition, footnotes that currently exist referencing the 50 percent or greater

water insoluble nitrogen are removed as these footnotes are not consistent with the recommendations contained in the 2011 VDACS' report and retaining this information is also not consistent with the definitions of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" as defined in Section VI of the proposed amendments, where a 15 percent standard consistent with AAPFCO and VDACS' regulations is referenced.

Minor edits for clarification and consistency of terms have been made.

Nitrogen Management on Athletic Fields – Warm Season Grasses - The table related to Bermudagrass (a warm season grass) has been modified to state that no more than 0.7 pounds of water soluble nitrogen per 1,000 ft<sup>2</sup> can be applied in certain specified months.

Related footnotes have also been realigned in the table and the footnotes modified to address the recommendations in the VDACS' study. Where the table references two applications within a 30-day time frame, the footnotes now state that not more than 0.35 pounds of nitrogen can be applied as two applications (0.35 pounds per application X 2 applications = 0.7 pounds of water soluble nitrogen). For slowly available nitrogen sources, split applications within a 30-day period are not to exceed 0.5 pounds (0.5 pounds per application X 2 applications = 1.0 pounds of total nitrogen).

Please note that the slowly available forms of nitrogen are tied to the 15 percent standards in the definition of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer." In addition, footnotes that currently exist referencing the 50 percent or greater water insoluble nitrogen are removed as these footnotes are not consistent with the recommendations contained in the 2011 VDACS' report and retaining these tables is also not consistent with the definitions of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" as defined in Section VI of the proposed amendments, where a 15 percent standard consistent with AAPFCO and VDACS' regulations is referenced.

Minor edits for clarification and consistency of terms have been made.

Phosphorus and Potassium Recommendations Athletic Fields - Minor edits for clarification and consistency of terms have been made.

- *Establishment/Grow-In Recommendations for Golf Courses, Athletic Fields, and Sod Production*

Warm Season Grasses – Language that currently exists referencing the 50 percent or greater water insoluble nitrogen is removed from this part of the subsection and replaced with updated language as the current verbiage is not consistent with the recommendations contained in the 2011 VDACS' report and retaining the current language is also not consistent with the definitions of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" as defined in Section VI of the proposed amendments, where a 15 percent standard consistent with AAPFCO and VDACS' regulations is referenced.

Changes have also been made to address the VDACS' study recommendations for application rates related to warm season grasses (up to 1.0 pound of nitrogen per 1,000 ft<sup>2</sup> using a material containing slowly available forms of nitrogen during any given 30-day period). Furthermore, this part of the subsection has been modified to delete the term "Pre-plant" that appears in the subheading "Naturally Occurring or Modified Sand Based Soils" and replace it with "At Planting" as this is a typographical error that was noted during this regulatory review. Other minor edits for clarification and consistency of terms have been made.

Cool Season Grasses - Changes have also been made to address the VDACS' study recommendations for application rates related to cool season grasses (up to 0.9 pounds of nitrogen per 1,000 ft<sup>2</sup> using a material containing slowly available forms of nitrogen). Minor edits for clarification and consistency of terms have been made.

Naturally Occurring or Modified Sand Based Soils - Changes have been made to address the VDACS' study recommendations for application rates related to cool season grasses (up to 0.9 pounds of nitrogen per 1,000 ft<sup>2</sup> using a material containing slowly available forms of nitrogen) and for application rates related to warm season grasses (up to 1.0 pounds of nitrogen per 1,000 ft<sup>2</sup> using a material containing slowly available forms of nitrogen). The language also states that not more than 0.5 pounds of slowly available nitrogen may be applied every two weeks after germination related to warm season grasses (0.5 pounds per application X 2 applications = 1 pound of nitrogen.)

Language that currently exists referencing the 50 percent or greater water insoluble nitrogen is removed from this part of the subsection and replaced with updated language as the current terms are not consistent with the recommendations contained in the 2011 VDACS' report and retaining these tables is also not consistent with the definitions of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" as defined in Section VI of the proposed amendments, where a 15 percent standard consistent with AAPFCO and VDACS' regulations is referenced. Minor edits for clarification and consistency of terms have been made.

Sod Installations – Language has been added to state that not more than 0.7 pounds of nitrogen per 1,000 ft<sup>2</sup> of readily available nitrogen (water soluble nitrogen) may be applied before sod is installed. Language has also been added to address the VDACS' study recommendation regarding application rates for both cool and warm season grasses. For cool season grasses, the 0.9 pounds of slowly available nitrogen per 1,000 ft<sup>2</sup> is added and 1.0 pound of nitrogen per 1,000 ft<sup>2</sup> for warm season grasses is added. All applications may be applied before sod is installed.

Language that currently exists referencing the 50 percent or greater water insoluble nitrogen is removed from this part of the subsection and replaced with updated language as the current verbiage is not consistent with the recommendations contained in the 2011 VDACS' report and retaining the current language is also not consistent with the definitions of "slow or controlled release fertilizer" and "enhanced efficiency fertilizer" as defined in Section VI of the proposed amendments, where a 15 percent standard

consistent with AAPFCO and VDACS' regulations is referenced. Minor edits for clarification and consistency of terms have been made.

*Other Turf Management Considerations for Golf Courses, Athletic Fields, and Home Lawns* – No changes have been made here as this subsection deals with lime recommendations, grass clippings, the use of iron and impervious surfaces and none of these issues are affected by the 2011 VDACS' study recommendations.