

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

MATERIALS PROCEDURE

DETERMINING APPLICATION RATE OF GROUND
AGRICULTURE LIMESTONE BASED ON PH TESTS

1. PURPOSE

- 1.1 To provide guidance and instruction in determining the application rate of agricultural limestone to specific areas, based on pH, prior to seeding.
 - 1.2 This procedure is applicable to all projects and is intended to be used in the field.
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2. DEFINITIONS

- 2.1 Section - An entire cut, fill, or median area, or any portion thereof, to receive either permanent or temporary seeding.
 - 2.2 pH - The acidity or alkalinity of a substance expressed as a numerical value.
 - 2.3 Average pH - The average of individual pH determinations from each section.
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3. PROCEDURE

- 3.1 All pH determinations shall be made in accordance with instructions that accompany soil reaction kits furnished by Materials Control, Soils and Testing Division (MCS&T) to District Materials.
 - 3.2 For through cuts or through fill slope sections, the average pH will be determined from a total of six individual readings. If both sides of the roadway are seeded concurrently, three of the individual readings shall be made on each side.
 - 3.3 For side hill cut and side hill fill sections, the average pH will be determined from six individual readings from each side of the roadway.
 - 3.4 For medians, the average pH will be determined from six tests for each section.
 - 3.5 For all other miscellaneous sections not listed above, the average pH will be determined from two tests.
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**4. DETERMINING APPLICATION RATES OF AGRICULTURAL
LIMESTONE**

- 4.1 Using the average pH, as set forth in Section 3, each section will be limited at the rates specified in Table 1 for the type of soil and seed mixture.

5. DOCUMENTATION

- 5.1 Results of pH determinations and locations will be documented on the attached worksheet(s), with one copy being forwarded to the Materials Control, Soils and Testing Division by District Materials.



10/17/2023

Ronald L. Stanevich, P.E.
Director
Materials Control, Soils and Testing Division

MP 700.04.10 Steward – Environmental and Coatings Section
RLS:Pp

ATTACHMENT

Reconfirmed with Metric on November 15, 2023

TABLE 1
 RATES FOR APPLYING AGRICULTURAL LIMESTONE

Pounds per Acre (English)

Soil pH	Degree of Acidity	Crown Vetch and Lawn (Type C ₁ C ₂ D)		Sericea Lespedeza and K ₃₁ Fescue (Type A and B)	
		Sandy Soil	All Others	Sandy Soil	All Others
7+	Neutral to Alkaline				
6.0 to 6.9	Slightly Acidic	1,000	2,000	0	0
5.5 to 5.9	Medium	2,000	4,000	1,000	1,000
4.5 to 5.4	Strong	3,000	5,000	1,500	2,000
3.5 to 4.4	Very Strong	Not Suitable for Crown Vetch		3,000	4,000
<= 3.4	Toxic to most Plants	Not Suitable for Crown Vetch		5,000	8,000

Kilograms per Hectare (Metric)

Soil pH	Degree of Acidity	Crown Vetch and Lawn (Type C ₁ C ₂ D)		Sericea Lespedeza and K ₃₁ Fescue (Type A and B)	
		Sandy Soil	All Others	Sandy Soil	All Others
7+	Neutral to Alkaline				
6.0 to 6.9	Slightly Acidic	1,100	2,200	0	0
5.5 to 5.9	Medium	2,200	4,500	1,100	1,100
4.5 to 5.4	Strong	3,400	5,600	1,700	2,200
3.5 to 4.4	Very Strong	Not Suitable for Crown Vetch		3,000	4,000
<= 3.4	Toxic to most Plants	Not Suitable for Crown Vetch		5,000	8,000

TABLE 2
 FIELD DETERMINATION OF pH

Project:				County:		
Date				Signature:		
Section Sta. to Sta.	Right and/or Left	Cut or Fill	pH Values	Average pH	Sandy or Other	Appl. Rate
			1= 2= 3= 4= 5= 6= Σ=			
			1= 2= 3= 4= 5= 6= Σ=			
			1= 2= 3= 4= 5= 6= Σ=			
			1= 2= 3= 4= 5= 6= Σ=			