
Rules of
Department of Higher Education
Division 250—University of Missouri
Chapter 10—Administration of Missouri
Agricultural Liming Materials Act

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**Title 6—DEPARTMENT OF
HIGHER EDUCATION**

**Division 250—University of Missouri
Chapter 10—Administration of Missouri
Agricultural Liming Materials Act**

**6 CSR 250-10.010 Adoption of Basic
Sampling Procedures**

PURPOSE: This rule establishes the Association of American Plant Food Control Officials Inspector's Manual, Third Edition, 1977, as a rule for required procedures by which representative samples of agricultural liming materials may be obtained.

Editor's Note: The secretary of state has determined that publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the rule has been filed with the secretary of state and is summarized here by the agency adopting it. The entire text of the rule may be found at the headquarters of the agency and is available to any interested person at a cost established by state law.

(1) The Association of American Plant Food Control Officials Inspector's Manual has been developed on a national basis as a training guide for the proper performance of the duties and responsibilities delegated to fertilizer inspectors. Procedures for obtaining representative samples of bulk fertilizer are described in this manual as a guide to the inspector. The procedures described are also appropriate and thereby adopted for the obtaining of representative sample of agricultural liming materials. The current edition of the Inspector's Manual is the Third Edition, 1977. As new editions are published they will replace the older editions in this rule and this rule will be amended accordingly. Other sources such as Association of Official Analytical Chemists (AOAC) Official Methods of Analysis, ASTM Manuals and other accredited sources will also be used as references.

AUTHORITY: section 256.545, RSMo 1986. This rule was previously filed as 2 CSR 15-2.010. Original rule filed Oct. 13, 1976, effective Jan. 13, 1977. Amended: Filed Aug. 15, 1985, effective Jan. 1, 1986.

**6 CSR 250-10.020 Agricultural Liming
Materials Standards**

PURPOSE: The purpose of this rule is to set forth standards and guidelines as are necessary to provide for the efficient enforcement of the provisions of the Missouri Agricultural Liming Materials Act.

Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the rule has been filed with the secretary of state and is summarized here by the agency adopting it. The entire text of the rule may be found at the headquarters of the agency and is available to any interested person at a cost established by state law.

(1) Agricultural liming materials and agricultural liming materials mixtures, as defined in paragraphs (1)–(4) of section 266.505, RSMo (1986), by virtue of their physical and chemical characteristics, in part, must be treated separately under the Missouri Agricultural Liming Materials Law. Each delivery shall be guaranteed as to the effective neutralizing material and the effective magnesium, as derived by 6 CSR 250-10.020(3)–(5).

(2) All dry agricultural liming materials offered for sale shall have a minimum calcium carbonate equivalent of sixty-five percent (65%) and shall meet the minimum specifications for fineness as set forth in section 266.505(1), RSMo (1986). A permit to sell, and certification of effective neutralizing material and certification of effective magnesium, may be withdrawn for materials which fail to meet minimum specifications of this section.

(3) The pounds of effective neutralizing material (ENM) in one (1) ton of agricultural liming material shall be based on the calcium carbonate equivalent (CCE) of the agricultural liming materials as delivered for sale and the fineness factor calculated from the percent of materials passing a United States standard sieve size number eight (8) and remaining on a United States standard sieve size number forty (40), the percent of materials passing a United States standard sieve size number forty (40) and remaining on a United States standard sieve size number sixty (60) and the percent of materials passing a United States standards sieve sixty (60). The final result of calculations shall be rounded to the nearest whole number, which will be the pounds of effective neutralizing material per ton.

United States Standard Sieve Size No. Ranges	Efficiency Percentages
% Remaining on 8	0%
% Passing 8 and Remaining on 40	25
% Passing 40 and Remaining on 60	60
% Passing 60	100

The fineness factor is calculated to allow for variations in fineness of materials using the following formula:

$$\begin{aligned} \text{Fineness Factor} = & (\% \text{ of materials passing United States No. 8 and remaining on } 40 \times 0.25) \\ & + (\% \text{ of materials passing United States No. 40 and remaining on } 60 \times 6.060) \\ & + (\% \text{ of materials passing United States No. 60} \times 1.00) \end{aligned}$$

Calculations to allow for variations in calcium carbonate equivalent and fineness shall be made by using the following formula:

$$\text{ENM} = \frac{\% \text{ CCE} \times \text{Fineness Factor} \times 800}{100 \quad 100}$$

(4) The pounds of effective magnesium (E.Mg.) in one (1) ton of agricultural liming material which meets the specifications of 6 CSR 250-10.020(2) shall be based on the magnesium content of the agricultural liming materials delivered for sale and the fineness factor as determined in 6 CSR 250-10.020(3). Calculations to allow for variations in magnesium content and fineness shall be made using the following formula:

$$\text{E.Mg.} = \frac{\% \text{ M.g.} \times \text{Fineness Factor} \times 2000}{100 \quad 100}$$

The final result of calculations shall be rounded to the nearest whole number, which will be the pounds of effective magnesium per ton.

(5) The pounds per ton of ENM and the pounds per ton of E.Mg. for agricultural liming materials mixtures shall be based on the calcium carbonate equivalent and the magnesium content of the agricultural liming material mixture as delivered for sale and on the fineness factor of the dry agricultural liming material used in the mixture as determined in 6 CSR 250-10.020(3) and (4).

(6) All samples of agricultural liming materials taken for analyses shall be taken in accordance with the following methods and procedures:

(A) Production or Transfer Belt Sampling. With a stream sample, follow the basic procedures outlined in 6 CSR 250-10.010(1) but extend the time between passes to at least thirty (30) seconds. This procedure may be used at any point where agricultural lime is being produced or transferred by belt. The opening of the stream sample may be closed to about three quarters inch (3/4") if the opening is the same width over its entire length to avoid excessively large samples;

(B) Freshly Built and Active Stockpile Sampling. When material is being regularly; added to or withdrawn from a stockpile of agricultural liming materials, samples should be taken with the "D" tube device. If probing by means of the "D" tube is not possible, follow instructions of 6 CSR 250.10.020(6)(D). In all probe sampling, distribute sampling locations uniformly on the surface of the areas to be represented;

(C) Truck Sampling. Trucks may be sampled with the stream sample during loading or with the "D" tube after loading following precisely the instructions for sampling bulk fertilizer in 6 CSR 250-10.010(1). Generally, trucks should be sampled only to represent a load ready for delivery to a known final purchaser and trucks merely hauling material to a stockpile should not normally be sampled since truck samples may not be used in determining either the production point or stockpile certification;

(D) Crusted and Temporarily Inactive Stockpile Sampling (Which Cannot be Probed).

1. Several tons (or several truckloads if possible) should be pulled down from the working face of the load-out area. The "D" tube should then be used to draw ten (10) cores representatively distributed over the loosened material. Each subsequent official sample must be from newly pulled down materials.

2. If it is not possible or feasible to pull down materials, a straight narrow bladed spade (sharpshooter) should be used.

A. Stockpiles of over one thousand (1000) tons. The stockpile should be oriented with regard to compass direction so that it may be divided into four (4) identifiable pie-shaped quadrants. Only one (1) quadrant should be sampled at a time, sampling the side that will be used for loading-out first, if possible, with sampling points located over entire area approximately as indicated.

Clear away crusted material with the sharpshooter until a full spade depth of loose, uncaked material can be removed. One (1) or (2) full spades should then be removed.

Then cut a smooth face at a sufficient angle from vertical so that a one inch (1") slice of

agricultural lime may be removed intact in the spade. Everything except a one inch by the inch (1" × 1") section from the top to the bottom of the space should be removed. (The top opening of a stream sample turned upside down may be used to cover this central section while the excess at each side is removed.) This one inch by one inch (1" × 1") central core should then be put in plastic bag. This procedure should be repeated for each sampling point until ten (10) cores are composited to make up an official sample. After the crust is removed, it may be possible to probe some of the sampling locations. A combination of ten (10) "D" tube cores and spade cores may be composited together to make up the official sample.

B. Stockpiles of one thousand (1000) tons or less may be sampled as in 6 CSR 250-10.020(6)(D)2.A., except that sampling location should be uniformly distributed over the entire surface of the pile.

3. Only one (1) sample may be taken from a stockpile on any single day. If a stockpile remains inactive for several weeks, all quadrants might be sampled in this manner, however, probe sampling should be used in the area of activity at any time a stockpile is being used or rebuilt; and

(E) Sampling Fluid Lime Suspensions.

1. Fluid lime suspensions should be sampled, whenever possible, immediately after mixing as the product is being loaded from the mixing vat to the delivery vehicle. The sample should be caught from the delivery line at the delivery vehicle after at least one hundred (100) gallons have been loaded and while a substantial quantity remains to be loaded. Use a wide mouth polyethylene sampling bottle of at least one (1) pint capacity. It may be necessary to reduce product flow momentarily during sampling.

2. If this sampling procedure is not possible, fluid lime may be sampled from the mixing vat, delivery vehicle or storage after thorough agitation, with a heavily weighted fluid fertilizer sampling bottle following procedures for sampling fluid fertilizer suspensions described in the *Associations of American Plant Food Control Officials Inspector's Manual* cited in 6 CSR 250-10.010.

AUTHORITY: section 256.545, RSMo 1986. This rule was previously filed as 2 CSR 15-2.020. Original rule filed Oct. 13, 1976, effective Jan. 13, 1977. Amended: Filed Dec. 15, 1982, effective March 14, 1983. Amended: Filed Aug. 15, 1985, effective Jan. 1, 1986.

6 CSR 250-10.030 Inspection Fee

PURPOSE: This rule set forth the inspection fee.

The fee provided by section 266.520. RSMo to be prescribed by rule shall be six cents (6) per ton, two thousand (2000) pounds of agricultural limestone, agricultural liming materials and other agricultural liming materials as defined in paragraphs (1)–(3) of section 266.505, RSMo (1986) sold for use in Missouri.

AUTHORITY: section 266.520, RSMo 1986. Original rule filed Aug. 15, 1985, effective Jan. 1, 1986.

6 CSR 250-10.040 Annual Permit Fee

PURPOSE: This rule establishes an annual fee for the permit to sell agricultural liming materials in the state.

(1) The director will cause to be mailed each year on or about the fifteenth of April a renewal application form to all distributors or producers currently selling agricultural liming materials in the state to renew their permits required by section 266.515, RSMo for the coming year. The completed application shall be returned to the director by June 1, accompanied by a permit fee of one hundred U.S. dollars (\$100). New applications shall also be accompanied by a permit fee of one hundred U.S. dollars (\$100). Permit fees collected will be used to defray administrative costs of distributor/producer registration, with any permit fees collected in excess of administrative costs to be used to support related research proposals.

AUTHORITY: sections 266.500–266.550, RSMo 1994 and Supp. 1997. Original rule filed Nov. 12, 1998, effective May 30, 1999.*

**Original authority: Please see the Missouri Revised Statutes 1994 and Supplement 1998.*

6 CSR 250-10.050 Collection Fee for Delinquent Filing of Certification of Sales

PURPOSE: This rule establishes a collection fee on distributors or producers who do not file a certificate of sales form within thirty days after each six-month period.

(1) If the certificate of sales form described in section 266.520, RSMo is not filed and the

payment of inspection fees is not made within thirty (30) days after the end of the specified filing period, a collection fee amounting to ten percent (10%) of the amount due or fifty U.S. dollars (\$50), whichever is greater, shall be assessed against the distributor or producer and added to the amount due.

AUTHORITY: sections 266.500–266.550, RSMo 1994 and Supp. 1997. Original rule filed Nov. 12, 1998, effective May 30, 1999.*

**Original authority: Please see the Missouri Revised Statutes 1994 and Supplement 1998.*