

Department : Agriculture

STATE OF MINNESOTA  
**Office Memorandum**

Date : March 16, 1994

To : Maryanne Hruby, Director  
LCRAR

From : Carol Milligan   
Agriculture Planning Division

Phone : 296-6906

Subject : **Submittal of Statement of Need and Reasonableness**

As required by Minnesota Statutes, sections 14.131 and 14.23, attached is the Statement of Need and Reasonableness for amendments to rules governing soil testing laboratory certification. The Notice of Intent to Adopt and the rule will be published in the *State Register* on 4/4/94.

Attachment



STATE OF MINNESOTA  
MINNESOTA DEPARTMENT OF AGRICULTURE

STATEMENT OF NEED AND REASONABLENESS PERTAINING TO PROPOSED RULES CONCERNING  
SOIL TESTING LABORATORY CERTIFICATION

INTRODUCTION

The subject of this rule making is the proposed adoption of the rules governing the certification of soil testing laboratories by the Minnesota Department of Agriculture (MDA) as required by Minnesota Statute, section 18C.141. The proposed rules will not result in the expenditure of public money by local public bodies.

BACKGROUND

Numerous studies exist in Minnesota and other Midwestern states documenting gross differences in analytical results and soil fertility recommendations among soil testing laboratories. These differences have caused serious credibility problems. Over fertilization commonly results in poor economic returns on fertilizer investments made as well as posing a strong potential for environmental degradation of the state's water resources. On the other hand, under fertilization also commonly results in poor economic returns based on the resulting reduction in productivity.

Gross differences in analytical results could result from either differences in analytical methods used to determine soil fertility recommendations or a lack of quality control, resulting in inaccurate analytical results. From the standpoint of differences in soil fertility recommendations among soil testing laboratories, differences in: (1) the basic philosophies concerning "build" vs. "maintenance" soil fertility recommendation programs for phosphorus, potassium, and other plant nutrients; (2) soil fertility recommendations based on inaccurately devised data sets or sets not appropriate for the locations used; (3) variability due to non-standardized laboratory procedures; and (4) variability due to inaccurate laboratory techniques and record keeping account for these gross differences. Considerable confusion has also resulted by the inconsistencies in the analytical reporting units (i.e. parts per million vs. pounds per acre) traditionally used by the soil testing laboratory industry.

The overall purpose of soil testing laboratory certification is to: (1) standardize reporting units; (2) improve laboratory analytical reliability; and (3) for comparative purposes, provide land grant university soil fertility recommendations submitted to the recipient of the soil test data.

IMPACT ON SMALL BUSINESSES

The majority of soil testing laboratories which do business with Minnesota-based farmers and gardeners would be classified as small businesses. These businesses have been consulted in developing the proposed rules governing soil testing laboratory certification. Consultation consisted of meetings where comments were presented by small businesses concerning the development of the proposed rules. Time was spent communicating details of the Minnesota Statute, section 18C.141, and proposed rules to soil testing laboratories being governed by this statute. The proposed rules were closely examined to minimize any negative impact on small businesses.

Examining the proposed rules via Minnesota Statute, Section 14.115, subdivision 2. (a) through (e), the department did not lessen requirements for small businesses. The department did not incorporate any of the methods in (a) through (c) because the department has certain information needs that correspond to the full compliance with Minnesota Statute, section 18C.141. Requirements pertaining to (d) and (e) could not be lessened for small businesses because lessening requirements would compromise consumer protection and the objectives of the program as specified in the statute. By standardizing (a) through (e) the department's goal is to aid the entire industry in the full understanding and compliance with requirements, schedules or deadlines, consolidations or simplifications, standards and exemptions.

Since most soil testing laboratories are considered small businesses, consideration to small businesses was made in formulating the proposed rules. In many situations, statutory requirements did not allow for variations in compliance, reporting, standards, and exemption/allowance requirements.

#### NEED FOR AND REASONABLENESS OF PROPOSED RULE

##### Section 1512.0015: DEFINITIONS

Subparts 1 through 12. The definitions are necessary because it provides clarity to the proposed rules. The inclusion of definitions is reasonable so that the department may consistently apply the rule to those who must comply with it.

##### Section 1509.0020: APPLICATION FOR CERTIFICATION AND RENEWAL

It is necessary for a soil testing laboratory to submit a completed application because it provides the department with information needed for granting, denying, modifying, or suspending certification.

The information requested by the department is reasonable because it is the minimum information necessary for the department to evaluate the qualification of the laboratory requesting certification. This in turn can be related to the laboratory's ability to provide consumers with quality soil testing services.

##### Section 1509.0025: TERM OF CERTIFICATION

Renewal dates are necessary to provide for uniform expiration and renewal time periods, because of the need to uniformly and fairly administrate the certification program.

Renewal dates are reasonable because the responsibilities and the time frames for both the laboratories and the department are clearly state and carried out in a fair and uniform manner.

##### Section 1509.0030: FEES

It is necessary for the soil testing laboratory applying for certification to include the fees as required in Minnesota Statute, section 18C.141 in order for the applicant to fulfill their monetary obligation for being granted certification. It is also necessary to assess the initial fee to those soil testing laboratories that allow their certification to lapse because of the extra processing involved, and to satisfy the requirements for an additional application fee stated in Minnesota Statute, section 18C.141, subdivision 5, paragraph b.

The fees are reasonable because they are established by Minnesota Statute 18C.141 and will aid in covering the overhead costs incurred by the department for overseeing this program.

##### Section 1509.0035: MINIMUM STANDARDS FOR LABORATORY EQUIPMENT AND FACILITIES

It is necessary that minimum standards for laboratory equipment and facilities be established because of the need for laboratories to perform quality analytical work appropriate for the services offered. Quality assurance plans are necessary in order to maintain continuity within laboratory staff, maximize equipment effectiveness, and incorporate consistent quality control.

It is reasonable that the laboratories adhere to these minimum standards because it will enable laboratories to track soil samples, analytical results, and ensure that high quality results be provided to their clients.

#### Section 1512.0040. MINIMUM SUPERVISORY PERSONNEL STANDARDS

It is necessary that minimum standards for laboratory supervisory personnel be established because of the need for laboratories to have supervisors that are competent in performing a number of complex and detailed analytical procedures involved in the testing of soil. These standards provide a base level in regards to education and experience.

It is reasonable because the majority of soil testing laboratories presently require extensive experience, a related college degree, or both for supervisory personnel. Requiring a higher or lesser standard would either pose an undue burden on or reduce the level of analytical accuracy of a soil testing laboratory. The standards in the proposed rules do afford a consistent, reasonable, and reliable standard for the industry.

#### Section 1512.0045: RECORDS

It is necessary to maintain pertinent records in the event of disputed data and so that the department can verify that accompanying land grant university soil fertility recommendations and other mandatory requirements, as designated by the soil testing certification program, are provided.

It is reasonable that the laboratories be required to maintain the records for one year because this would be a reasonable amount of time for the department to inspect the records if necessary.

#### Section 1512.0050 APPROVED SOIL ANALYSIS METHODS AND PROCEDURES

It is necessary that the soil testing industry use standardized analytical methods and procedures yet provide enough flexibility to adapt to the diversity in climatic and soil conditions. Methods and procedures within the North Central Regional Publication 221, or the most recent edition, allows this flexibility.

Correlation's are commonly inconsistent between various analytical methods and procedures. Therefore, it is reasonable to endorse standardized analytical methods which meet the needs of Minnesota-based farmers and gardeners. Results are directly comparable across laboratories and considerable confusion is alleviated or reduced.

#### Section 1512.0055 SOIL ANALYSIS METHOD AND PROCEDURE VARIANCE

It is necessary to allow the soil testing laboratory certification program to be flexible enough to facilitate the research and development of more efficient and effective soil analytical methods and procedures. The criteria set forth in the proposed rules will aid in facilitating this process.

The information required is reasonable because it will allow the department to determine if the proposed methods or procedures are analytically accurate and provide sound data for providing soil fertility recommendations.

#### Section 1512.0060 APPEAL OF ADMINISTRATIVE DECISION

It is necessary that the soil testing laboratories have an opportunity to submit an appeal if the department denies a variance or denies, suspends, or revokes laboratory certification because it provide a process by which disputes can be handled in an amiable manner.

The process is reasonable because it provide soil testing laboratories a way to discuss disputed facts and findings in regards to facilitating a resolution.

Section 1512.0065 ANALYZING CHECK SAMPLES AND ANALYTICAL DATA FOR GRANTING CERTIFICATION

Subpart 1. Minimum laboratory analytical methods for laboratory certification.

It is necessary to set a minimum number of analyses for obtaining initial or renewal laboratory certification in order to adequately evaluate if a soil testing laboratory is qualified to be granted certification. Routine soil test analyses such as pH, organic matter, phosphorus, potassium, and nitrate-nitrogen are commonly performed in most soil testing laboratories. This is the core of analyses that a qualifying laboratory should be able to accurately analyze in order to obtain or maintain certification.

It is reasonable that the soil testing laboratories make an effort to ensure that high quality results be provided to their customers.

Subpart 2. Reporting units on check sample analysis report.

It is necessary that standard reporting units be established for soil check samples as stated in Minnesota Statute, section 18C.141, because the department needs a way to evaluate the accuracy of analytical data for determining certification.

It is reasonable to require that soil check sample analytical data be reported in standardized units in order to provide an equal and fair system for soil testing laboratories to be evaluated for certification.

Subpart 3. Check sample processing and handling.

It is necessary to establish a standard method by which soil check samples are processed and handled in order to ensure equal opportunities by soil testing laboratories to accurately analyze soil check samples sent by the department for determining certification.

The method is reasonable because it allows an equal opportunity by all soil testing laboratories applying for certification to perform accurate analysis.

Subpart 4 and 5. Initial and renewal certification check samples.

It is necessary to establish a clear, concise format by which a soil testing laboratory has the opportunity to obtain initial and renewal certification. Establishment of soil check sample numbers, forms, and analytical data reporting deadline are necessary because they allow the department to administer the laboratory certification program in an efficient, effective, and fair manner.

It is reasonable for initial and renewal certification guidelines to be established and implemented because they allow equal and fair access for soil testing laboratories to obtain initial or renewal certification.

Subpart 6. Statistical guideline for granting certification.

It is necessary that statistical parameters be established for initial and renewal certification because of the need for determining the analytical accuracy and certification status of a soil testing laboratory as required in Minnesota Statute, section 18C.141, subdivisions 1 and 4. This provides a clearly defined format by which certification is determined and granted.

The statistical parameters are reasonable because they allow for the closest possible measure of analytical accuracy using a highly heterogeneous material such as soil without undue effort and expense upon a laboratory. Requiring higher standards for analytical accuracy could not be economically or practically performed. The proposed statistical parameters permits a reasonable measure of analytical accuracy for producing accurate soil fertility recommendations. If a soil testing laboratory maintains a high level of quality assurance and control, the proposed statistical parameters are attainable and practical.

Subpart 7. Blind soil check samples to certified and uncertified laboratories.

It is necessary to set up a format for the department to evaluate and determine the analytical accuracy of certified and uncertified soil testing laboratories as specified in Minnesota Statute, section 18C.141, subdivisions 1 and 2 paragraph d., because blind soil check samples, sent to a soil testing laboratory under an assumed name, and in a manner to make it appear that the sample came from a client is necessary in order for the department to better evaluate and determine analytical accuracy.

It is reasonable because it will aid both certified and uncertified soil testing laboratories in determining if analytical data is being processed accurately. In turn, these laboratories, once advised by the department, will use this information to fine tune their analytical processes.

#### 1512.0070 REPORTING CHECK SAMPLE ANALYTICAL DATA, STATISTICS, AND CERTIFIED LABORATORIES

Subpart 1 and 2. Analytical data and statistical reporting and Report of certified laboratories.

It is necessary to report analytical and statistical data because soil testing laboratories, participating in the certification program, have a need to know the accuracy of their analytical data. This will provide the information needed for future adjustments for maintaining or improving analytical accuracy. It is necessary that the department compile a listing of certified laboratories because it will alert the public of those soil testing laboratories that have achieved laboratory certification.

It is reasonable for the department to compile and issue such reports because it also provides an equal opportunity for all certified soil testing laboratories to be listed. In regards to the reasonableness of the analytical data and statistical reporting, the soil testing laboratories remain unidentified, but the analytical and statistical data is useful for improving quality assurance/control of participating laboratories. It is reasonable for the public to know which soil testing laboratories are certified. The public are made aware whether or not a soil testing laboratory has obtain laboratory certification, which in turn, indicates that a reliable level of analytical accuracy.

#### 1512.0075 ADVISORY PANEL

It is necessary that an advisory panel be assembled because of the highly technical aspects relating to the review of variances request and other soil testing related issues. The advisory panel would provide insights concerning industry matter of importance to the department administration of the laboratory certification program. For this reason, the advisory panel will prove to be an integral group in developing a well rounded, responsive program.

It is reasonable because the advisory panel will consists of individuals from various groups that are affected by this program. These individuals will get an equal opportunity to provide valuable input regarding the objectives and functioning of this program.

#### 1512.0080 LABORATORY INSPECTIONS

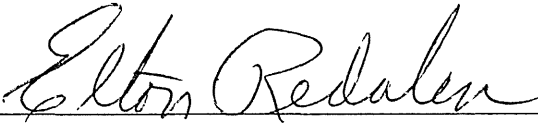
It is necessary for the department to perform laboratory inspections because it allows the department to pinpoint deficiencies relating to analytical accuracy, analytical methods and procedures, or other related matters of compliance in regards to Minnesota Statute, section 18C.141. Inspections ensure compliance with and creditability of the laboratory certification program. Inspections performed will ultimately benefit the soil testing laboratory industry in regards to improved analytical accuracy and service to their customers.

It is reasonable to perform random , unannounced inspections because it allows a soil testing laboratory to be objectively examined by an independent third party. In many cases a soil testing laboratory prefers an independent third party to assess the condition of laboratory facilities and personnel for improving quality assurance and control. This process allows a laboratory and the department to work in cooperation regarding items which are not in compliance in a reasonable and timely manner.

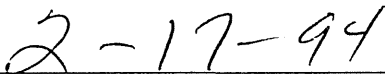
1512.0085 SOIL ANALYSIS AND SOIL FERTILITY RECOMMENDATION REPORTING

It is necessary that certified soil testing laboratories provide accompanying land grant university soil fertility recommendations because it provides clients with a clearer idea of their options concerning soil fertility recommendations. Minnesota Statute, section 18C.141, subdivision 3, paragraph b., requires that if a certified laboratory provides a recommendation, the University of Minnesota recommendation or that of another land grant college in a contiguous state must be offered in addition to other recommendations, and the source of the recommendations must be identified on the soil analysis and soil fertility recommendation report form.

It is reasonable because these reporting requirements are not overly cumbersome to implement from the standpoint of a soil testing laboratory. With the use of computers and computer programs any number of reporting formats can be implemented without great difficulty. It is also reasonable because reporting requirements meet those set forth in Minnesota Statutes, section 18C.141, subdivision 3, paragraphs a and b.

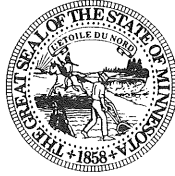


Elton Redalen, Commissioner of Agriculture



Date





## Minnesota Department of Agriculture

March 30, 1994

**TO:** Individuals, Firms and Organizations on the Minnesota  
Department of Agriculture Rulemaking Mailing List

**FROM:** <sup>CM</sup> Carol Milligan, Management Analyst  
Agriculture Planning Division

**SUBJ:** Proposed Rule of the Department of Agriculture

Enclosed you will find a "Notice of Intent to Adopt a Rule Without a Public Hearing" and proposed amendments to rules governing soil testing laboratory certification. The notice explains the procedures that will be followed in adopting the rule including opportunities for public comment.

The notice and the proposed rules will be published in the *Minnesota State Register* on Monday, April 4, 1994. The 30-day comment provided for by the Administrative Procedures Act will extend from that date until May 4, 1994. All comments on the proposed rule must be received by that date.

If you have any questions, please call me at (612) 296-6906.

CM:dw

Enclosure



STATE OF MINNESOTA  
DEPARTMENT OF AGRICULTURE

In the Matter of the Proposed Rules  
of the State Department of Agriculture  
Governing Soil Testing Laboratory Certification

NOTICE OF INTENT TO ADOPT  
A RULE WITHOUT A PUBLIC  
HEARING

The Minnesota Department of Agriculture intends to adopt rules without a public hearing following the procedures set forth in the Administrative Procedures Act sections 14.22-14.28. You have 30 days to submit written comment on the proposed rules and may also submit a written request that a hearing be held on the rules.

**Department Contact Person.** Comments or questions on the rules and written requests for a public hearing on the rules must be submitted to:

Carol Milligan, Minnesota Department of Agriculture, 90 West Plato Boulevard, St. Paul, MN 55107  
(612) 296-6906, Fax (612)297-7678.

**Subject of Rules and Statutory Authority.** The proposed rules are about procedures the department will follow to certify laboratories that analyze soil samples and make fertility recommendations. The statutory authority to adopt these rules is Minnesota Statutes, section 18C.141, subd. 6. A copy of the proposed rules is published in the *State Register* and attached to this notice as mailed.

**Comments.** You have until 4:30 p.m. May 4, 1994, to submit written comment in support of or in opposition to the proposed rules or any subpart of the rules. Your comments must be in writing and received by the agency contact person by the due date. Comment is encouraged. Your comments should identify the portion of the proposed rules addressed, the reason for the comment, and any change proposed.

**Request for a Hearing.** In addition to submitting comments, you may also request that a hearing be held on the rules. Your request for a public hearing must be in writing and must be received by the agency contact person by 4:30 p.m. on May 4, 1994. Your written request for a public hearing must include your name and address. You are encouraged to identify the portion of the proposed rules which caused your request, the reason for the request, and any changes you want made to the

proposed rules. If 25 or more persons submit a written request for a hearing, a public hearing will be held unless a sufficient number withdraw their request in writing. If a public hearing is required, the department will proceed according to Minnesota Statutes, sections 14.131-14.20.

**Modifications.** The proposed rules may be modified as a result of public comment. The modifications must be supported by the data and views submitted to the department and may not result in a substantial change in the proposed rules as attached and printed in the *State Register*. If the proposed amendments/rules affect you in any way, you are encouraged to participate in the rulemaking process.

**Statement of Need and Reasonableness.** A Statement of Need and Reasonableness is now available from the department contact person. This statement describes the need for and reasonableness of each provision of the proposed rules and identifies the data and information relied upon to support the proposed rules.

**Small Business Considerations.** The majority of businesses affected by this rule would be defined as a small business according to Minnesota Statutes section 14.115. However, the certification program is completely voluntary, so laboratories are only affected by this rule if they choose to be. Laboratories are not required to comply with this rule or be certified.

**Adoption and Review of the Rules.** If no hearing is required, after the end of the comment period the department may adopt the rules. The rules and supporting documents will then be submitted to the Attorney General for review as to legality and form to the extent that form relates to legality. You may request to be notified of the date the rules are submitted to the Attorney General or be notified of the Attorney General's decision on the rules. If you wish to be so notified or wish to receive a copy of the adopted rules, submit your request to the department contact person listed above.

2-22-94  
Date

Elton Redalen  
Elton Redalen, Commissioner  
Department of Agriculture

1 Department of Agriculture

2

3 Proposed Permanent Rules Relating to Soil Testing Laboratory

4 Certification

5

6 Rules as Proposed (all new material)

7 1512.0010 PURPOSE.

8 Parts 1512.0010 to 1512.0085 contain certification  
9 procedures and standards for laboratories that offer soil  
10 testing services and resulting fertilizer recommendations in  
11 Minnesota.

12 1512.0015 DEFINITIONS.

13 Subpart 1. **Scope.** The definitions in this part apply to  
14 parts 1512.0010 to 1512.0085.

15 Subp. 2. **Certification.** "Certification" means written  
16 acknowledgment by the department of the laboratory's  
17 demonstrated capability to perform soil testing procedures  
18 within required limits and in compliance with parts 1512.0010 to  
19 1512.0085.

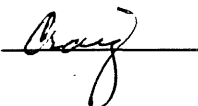
20 Subp. 3. **Check sample.** "Check sample" means a processed  
21 and prepared soil sample provided by the department to  
22 laboratories for performance evaluation.

23 Subp. 4. **Department.** "Department" means the department of  
24 agriculture.

25 Subp. 5. **Enrollment period.** "Enrollment period" means a  
26 period in which laboratories not previously certified or  
27 laboratories seeking initial certification after revocation may  
28 submit an initial certification application and fees of  
29 application and certification.

30 Subp. 6. **Initial fee.** "Initial fee" means the sum of the  
31 application fee and the annual certification fee provided in  
32 Minnesota Statutes, section 18C.141. This fee applies to  
33 laboratories requesting certification for the first time and to  
34 laboratories seeking certification after revocation.

35 Subp. 7. **Lapsed.** "Lapsed" means that fees have not been



1 paid or application submitted to the department in accordance to  
2 the deadline, creating a condition for revocation of  
3 certification.

4 Subp. 8. Method. "Method" means the type of analysis for  
5 a given soil analysis.

6 Subp. 9. Procedure. "Procedure" means a series of  
7 specific analytical steps for a given soil analysis method.

8 Subp. 10. Revoked. "Revoked" means that the department  
9 has canceled certification status because of unacceptable check  
10 sample performance or violation of law or rule.

11 Subp. 11. Soil analysis or soil test. "Soil analysis" or  
12 "soil test" means a physical or chemical analysis offered by the  
13 soil analysis industry.

14 Subp. 12. Soil analysis and fertility recommendation form.  
15 "Soil analysis and fertility recommendation form" means a soil  
16 analysis and fertility recommendation report consisting of one  
17 or more pages.

18 1512.0020 APPLICATION FOR CERTIFICATION AND RENEWAL.

19 Participation by a laboratory in the Minnesota Soil Testing  
20 Laboratory Certification Program is voluntary. Application for  
21 initial and renewal certification must be on application forms  
22 provided by the department. The enrollment period for  
23 laboratories to submit an initial certification application and  
24 fees is September 1 to November 30 of any year. The application  
25 must include the:

26 A. name, address, and telephone number of the  
27 laboratory;

28 B. names and signatures of laboratory supervisors;

29 C. names and signatures of fertilizer recommendation  
30 supervisors, if different from those in item B;

31 D. types of analyses and analysis methods requested  
32 for initial or renewal certification;

33 E. name of any land grant university whose fertilizer  
34 recommendations will be provided on the laboratory's soil  
35 analysis and fertility recommendation report forms; and

1 F. most current copy of soil analysis and fertility  
2 recommendation report form used for Minnesota based clients.  
3 This requirement does not apply for laboratories that are not  
4 providing soil analysis and fertility recommendation services in  
5 Minnesota as indicated on the initial or renewal certification  
6 application.

7 1512.0025 TERM OF CERTIFICATION.

8 Laboratory certifications are valid from January 1 to  
9 December 31 and must be renewed annually. The department shall  
10 send renewal forms no later than 30 days before expiration of  
11 certification.

12 1512.0030 FEES.

13 Fees for application and certification are stated in  
14 Minnesota Statutes, section 18C.141. Applicable fees for  
15 initial or renewal certification must be submitted with an  
16 application. Fees may not be prorated. Land grant university  
17 soil analysis laboratories in Minnesota and those that are in  
18 states contiguous with Minnesota are exempt from all fees.

19 Laboratories that fail to pay the renewal fee by December  
20 31 of each year, as designated by postmark, must have their  
21 certifications classified as lapsed and are subject to initial  
22 fee charges to regain certification status. A laboratory  
23 certification must be reclassified as revoked if the initial or  
24 renewal fees payable are not postmarked within 60 days after the  
25 December 31 deadline.

26 1512.0035 MINIMUM STANDARDS FOR LABORATORY EQUIPMENT AND  
27 FACILITIES.

28 Each laboratory that performs soil analysis must maintain  
29 equipment and facilities that are adequate and appropriate for  
30 the services offered. Each laboratory must maintain the  
31 standards in items A and B.

32 A. Equipment must be maintained in proper working  
33 order and routinely checked to assure accuracy. Instruments  
34 must meet the specifications of the methodology for the analysis

1 being performed and must be maintained, monitored, and  
2 calibrated to assure accuracy.

3 B. The laboratory must follow a written plan of  
4 quality control assurance. The plan must describe policies and  
5 procedures used to:

- 6 (1) track soil samples from time of receipt to  
7 analysis;  
8 (2) calibrate instruments, including frequency;  
9 (3) maintain functional equipment, including  
10 routine maintenance procedures and schedules; and  
11 (4) check internal quality control.

12 1512.0040 MINIMUM PERSONNEL STANDARDS.

13 Each laboratory that performs soil analysis must be  
14 supervised by persons who are responsible for the training and  
15 supervision of the laboratory staff. The supervisor must meet  
16 one of the following qualifications:

- 17 A. be a graduate of an accredited college with a  
18 bachelor of science degree and a graduate in one of the  
19 chemical, engineering, physical, or biological sciences; or  
20 B. have five years prior experience in the  
21 supervision or operations of a laboratory that performs soil  
22 analysis.

23 1512.0045 RECORDS.

24 Records of sample receipt, sample analysis, soil fertility  
25 recommendations, and internal quality assurance must be  
26 maintained for at least one year.

27 1512.0050 APPROVED SOIL ANALYSIS METHODS AND PROCEDURES.

28 Soil analysis methods and procedures must be those  
29 applicable to Minnesota soils and conditions that are set forth  
30 in the most recent edition of the Recommended Chemical Soil Test  
31 Procedures for the North Central Region, North Central Regional  
32 Publication 221. This publication is incorporated by reference,  
33 is not subject to frequent change, and is available from the  
34 Minnesota State Law Library, the Minnesota Department of



1 Agriculture, Division of Agronomy Services, or the Soil Testing  
2 Laboratory, University of Minnesota, St. Paul.

3 Alterations in procedures which maintain the integrity of  
4 the analytical method are allowable if the check sample  
5 analytical data is within the one standard deviation from the  
6 mean range as denoted in part 1512.0065, subpart 6, and as  
7 specified in the North Central Regional Publication 221.

8 1512.0055 SOIL ANALYSIS METHOD OR PROCEDURE VARIANCE.

9 The department may grant a variance from requirements of  
10 part 1512.0050. To request a variance, a laboratory must  
11 provide a written request to the department including:

12 A. the specific methods or procedures for which the  
13 variance is being sought including analytical methodology;

14 B. reasons for the request; and

15 C. documentation and research to show correlation of  
16 analytical data to crop response and interpretation of the soil  
17 analysis to provide fertilizer recommendations for Minnesota  
18 soils and conditions.

19 The department shall review information submitted with the  
20 variance request in consultation with the soil testing advisory  
21 panel according to part 1512.0075. The department shall grant  
22 or deny the variance within 100 working days of receipt of the  
23 request. Analytical methods or procedures that have been  
24 granted a variance may be used by any laboratory requesting  
25 initial or renewal certification. Analytical methods or  
26 procedures that have been granted a variance must be published  
27 in the yearly certification program report and provided by any  
28 laboratory requesting certification. The department shall send  
29 written reasons for a denial of a request for variance within  
30 100 working days of receipt of request.

31 1512.0060 APPEAL OF ADMINISTRATIVE DECISION.

32 The department shall notify a laboratory in writing of the  
33 reasons for a decision to deny a variance or to deny, suspend,  
34 or revoke certification. The laboratory has 30 days from the  
35 date of receiving notice of the decision to appeal the

1 decision. A request to appeal the decision must be in writing  
2 to the department, must indicate the facts the laboratory  
3 disputes, and must be signed by the laboratory supervisor. The  
4 appeal may include a request for a personal meeting with the  
5 department for purposes of discussing disputed facts and  
6 findings. The department must consult with the advisory panel  
7 regarding the appeal. The department shall accept or deny the  
8 appeal and respond to the laboratory making the appeal within  
9 100 working days of receipt of the request.

10 1512.0065 ANALYZING CHECK SAMPLES AND ANALYTICAL DATA FOR  
11 GRANTING CERTIFICATION.

12 Subpart 1. Minimum laboratory analytical methods for  
13 laboratory certification. Laboratories desiring certification  
14 must analyze the check samples for the following parameters as a  
15 minimum requirement: Bray or Olsen phosphorus, potassium,  
16 nitrate-nitrogen, pH, and organic matter. Any remaining  
17 analysis methods, as recognized by North Central Regional  
18 Publication 221, are required only if soil fertility  
19 recommendations are made. Each check sample must be handled and  
20 analyzed in duplicate for all analysis methods and procedures  
21 for which the laboratory is requesting initial or renewal  
22 certification. Duplicate check samples must be analyzed on  
23 different days and reported as individual results.

24 Subp. 2. Reporting units on check sample analysis report.  
25 Analytical data of check samples must be reported in elemental  
26 form as follows:

27 A. nitrate-nitrogen, phosphorus, potassium,  
28 sulfate-sulfur, chloride, calcium, and magnesium to the nearest  
29 part per million (ppm);

30 B. organic matter to the nearest tenth of a  
31 percentage;

32 C. pH and buffer pH to the nearest tenth of a pH  
33 unit;

34 D. all micronutrients reported to the nearest tenth  
35 of a ppm; and

1 E. soluble salts reported to the nearest 0.1 mmhos/cm.

2 Subp. 3. Check sample processing and handling. Check  
3 samples, other than blind check samples referred to in subpart  
4 7, must be processed and prepared by the department or by a  
5 person under contract with the department according to approved  
6 soil analysis methods and procedures. Check samples must be  
7 shipped in secure containers and be ready for analysis upon  
8 receipt.

9 Subp. 4. Initial certification check samples. Upon  
10 receipt of the application form and application and  
11 certification fees, the department shall send eight check  
12 samples for analysis. Check samples, accompanied by analysis  
13 data forms and instructions, must be sent by the department to a  
14 laboratory applying for initial certification between September  
15 1 and December 31. The laboratory must submit analytical data  
16 to the department within 30 days of receipt of the check  
17 samples. Analytical data submitted after this deadline must be  
18 considered invalid. The laboratory may not be reimbursed for  
19 analysis costs incurred in obtaining initial certification.

20 Subp. 5. Renewal certification check samples.  
21 Laboratories applying for renewal certification must analyze two  
22 sets of four check samples on a semiannual basis. Check  
23 samples, accompanied by analysis data forms and instructions,  
24 must be sent by the department during the following time  
25 periods: March 1 to May 1 and August 1 to October 1. The  
26 laboratory must submit analytical data to the department within  
27 30 days of receipt of the check samples. Analytical data  
28 submitted after this deadline must be considered invalid. The  
29 laboratory may not be reimbursed for analysis costs incurred in  
30 obtaining renewal certification.

31 Subp. 6. Statistical guidelines for granting  
32 certification. The department shall compile analytical data  
33 submitted by laboratories for each set of check samples. Check  
34 sample analytical data from qualifying laboratories must be  
35 composited by the department to provide statistical means and  
36 standard deviations for each soil testing method. Check sample

1 analytical data points outside the range of plus or minus one  
2 standard deviation from the mean must be noted.

3 Statistical guidelines for determining initial and renewal  
4 certification are:

5 A. Initial certification. If more than 20 percent of  
6 a laboratory's individual check sample analytical data points  
7 are outside the range of plus or minus one standard deviation  
8 from the mean, the laboratory shall reanalyze check samples.  
9 Initial certification must be denied if more than 20 percent of  
10 a laboratory's check sample analytical data points are outside  
11 the range of plus or minus one standard deviation from the mean.

12 B. Renewal certification. If more than 20 percent of  
13 the analytical data points of each set of four check samples  
14 falls outside the range of plus or minus one standard deviation  
15 from the mean, the laboratory must reanalyze the check samples.  
16 The percent of analytical data points outside the range of plus  
17 or minus one standard deviation from the mean for both the  
18 analyzed and reanalyzed check samples must then be noted. Once  
19 both sets of semiannual check samples have been analyzed, the  
20 composite analytical data points from both sets of check samples  
21 must be combined to determine the percent that falls outside the  
22 range of plus or minus one standard deviation from the mean.  
23 Renewal certification must be denied if more than 20 percent of  
24 the total annual composite analytical data points falls outside  
25 the range of plus or minus one standard deviation from the mean.

26 Subp. 7. **Blind soil check samples to certified and**  
27 **uncertified laboratories.** The department may conduct blind  
28 check samples on either certified or uncertified laboratories as  
29 stated in Minnesota Statutes, section 18C.141, subdivision 2,  
30 paragraph (d). For purposes of this subpart, "blind check  
31 sample" means a sample sent to a laboratory by the department  
32 under an assumed name, and in a manner to make it appear that  
33 the sample came from a client. Check sample preparation as  
34 stated in subpart 3 may not be required so that the identity of  
35 the sending party is not revealed. The department shall bear  
36 the cost of requested analyses for blind check samples. If

1 analytical data falls outside the range of plus or minus one  
2 standard deviation from the mean, the department shall consult  
3 with the laboratory concerning the discrepancy or inaccuracy of  
4 the blind check samples analytical data produced by the  
5 laboratory.

6 1512.0070 REPORTING CHECK SAMPLE ANALYTICAL DATA, STATISTICS,  
7 AND CERTIFIED LABORATORIES.

8 Subpart 1. Analytical data and statistical reporting. The  
9 department shall compile reports of analytical data submitted by  
10 laboratories and statistics for each set of check samples.  
11 Laboratories must remain unidentified on the report. Each  
12 laboratory participating in the certification program must  
13 receive a copy of its own data and summary statistics.

14 Subp. 2. Report of certified laboratories. The department  
15 shall compile a yearly report listing laboratories that meet the  
16 certification requirements of the Minnesota Soil Testing  
17 Laboratory Certification Program, and the analytical methods for  
18 which each laboratory is certified. Annual reports must be  
19 available April 1 of each year. Current lists of certified  
20 laboratories will be available from the department.

21 1512.0075 ADVISORY PANEL.

22 The department shall appoint a soil testing advisory panel  
23 to provide recommendations on appropriate soil analytical  
24 methods and procedures for Minnesota climate and conditions, and  
25 to provide technical evaluations of requests for analytical  
26 variances. The advisory panel must include representation from  
27 the Minnesota Department of Agriculture, the Agricultural  
28 Extension Service, the University of Minnesota College of  
29 Agriculture, the fertilizer industry, agricultural crop  
30 consultants, and the soil testing laboratory industry. The  
31 advisory panel shall meet at least once a year. Members shall  
32 serve three year terms and have equal voting power. Panel  
33 meetings must be open to the public.

34 1512.0080 LABORATORY INSPECTIONS.

1           The purpose of laboratory inspections is to investigate the  
2 general cleanliness of the laboratory, examine equipment used in  
3 soil analysis methods and procedures, and review qualifications  
4 of personnel. Inspections of laboratories must be conducted  
5 during normal business hours by the department to determine  
6 compliance with certification requirements. Inspections may be  
7 unannounced and done on a random basis.

8 1512.0085 SOIL ANALYSIS AND SOIL FERTILITY RECOMMENDATION  
9 REPORTING.

10           A. Analytical data of client soil samples must be  
11 reported in elemental form as follows:

12                   (1) phosphorus (P), potassium (K), calcium, and  
13 magnesium to the nearest part per million (ppm);

14                   (2) nitrate-nitrogen, sulfate-sulfur, and  
15 chloride in pounds per acre for the appropriate sampling depth;

16                   (3) organic matter to the nearest tenth of a  
17 percentage;

18                   (4) pH and buffer pH to the nearest tenth of a pH  
19 unit;

20                   (5) all micronutrients reported to the nearest  
21 tenth of a ppm; and

22                   (6) soluble salts reported to the nearest 0.1  
23 mmhos/cm.

24           B. If a certified laboratory provides soil fertility  
25 recommendations, the University of Minnesota soil fertility  
26 recommendations or that of another land grant university in a  
27 contiguous state must be provided in addition to other  
28 recommendations, and the source of the recommendations must be  
29 identified on the soil analysis and soil fertility  
30 recommendation report form. Land grant university soil  
31 fertility recommendations must be on the same soil analysis and  
32 soil fertility recommendation report form with other soil  
33 fertility recommendations as stated by the certified  
34 laboratory. If the soil analysis and soil fertility  
35 recommendation report form consists of more than one page, the

1 first page of the report form must conspicuously state that  
2 "Land Grant University Soil Fertility Recommendations Have Been  
3 Provided With This Report." A certified laboratory shall not  
4 provide soil fertility recommendations if a request from a  
5 client is made that only soil analysis information be provided  
6 on the soil analysis and soil fertility recommendation report  
7 form.

8 C. Certified laboratories that provide land grant  
9 university soil fertility recommendations must provide these  
10 recommendations from only one land grant university to the  
11 greatest extent possible. Land grant university soil fertility  
12 recommendations must conform to all conditions, requirements,  
13 and guidelines established for that state. Soil fertility  
14 recommendations of a land grant university from a state  
15 contiguous with Minnesota may be substituted if University of  
16 Minnesota soil fertility recommendations do not exist or if the  
17 selected soil fertility recommendations are more appropriate  
18 based on soil or climatic conditions. The origin of land grant  
19 university soil fertility recommendations from a state  
20 contiguous with Minnesota must be conspicuously stated on the  
21 soil analysis and soil fertility recommendation report form. If  
22 the certified laboratory makes a soil fertility recommendation  
23 in which no University of Minnesota or other suitable land grant  
24 university soil fertility recommendation from a contiguous state  
25 exist, the laboratory must state on the soil analysis and soil  
26 fertility recommendation report form that no land grant  
27 university soil fertility recommendations are available.  
28 Certified laboratories must update land grant university soil  
29 fertility recommendations on an annual basis.

30 D. Certified laboratories must be certified for any  
31 analytical method used to analyze soil for which a soil  
32 fertility recommendation is made. If a certified laboratory is  
33 not certified for a particular analytical method, this must be  
34 noted on the soil analysis and soil fertility recommendation  
35 report form. If more than one approved analytical method exists  
36 in the North Central Regional Publication 221, the analytical

1 method used must be identified along with the soil fertility  
2 recommendation.

3           E. If soil analysis and soil fertility recommendation  
4 report forms are transferred and provided through computer,  
5 computer program, electronic, mail, or telephone networks from a  
6 certified laboratory, all requirements of parts 1512.0010 to  
7 1512.0085 must be met. A printed copy of a soil analysis and  
8 soil fertility recommendation report form must be provided to  
9 the client of the certified laboratory.



# Office of the Revisor of Statutes

## Administrative Rules



**TITLE:** Proposed Permanent Rules Relating to Soil Testing  
Laboratory Certification

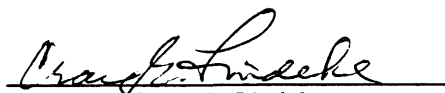
**AGENCY:** Department of Agriculture

**MINNESOTA RULES:** Chapter 1512

**INCORPORATIONS BY REFERENCE:**

Part 1512.0050: Recommended Chemical Soil Test Procedures for the North Central Region, North Central Regional Publication 221. This publication is available from the Minnesota State Law Library, the Minnesota Department of Agriculture, Division of Agronomy Services, or the Soil Testing Laboratory, University of Minnesota, St. Paul.

The attached rules are approved for  
publication in the State Register

  
\_\_\_\_\_  
Craig E. Lindeke  
Senior Assistant Revisor



1 Department of Agriculture

2

3 Proposed Permanent Rules Relating to Soil Testing Laboratory

4 Certification

5

6 Rules as Proposed (all new material)

7 1512.0010 PURPOSE.

8 Parts 1512.0010 to 1512.0085 contain certification  
9 procedures and standards for laboratories that offer soil  
10 testing services and resulting fertilizer recommendations in  
11 Minnesota.

12 1512.0015 DEFINITIONS.

13 Subpart 1. **Scope.** The definitions in this part apply to  
14 parts 1512.0010 to 1512.0085.

15 Subp. 2. **Certification.** "Certification" means written  
16 acknowledgment by the department of the laboratory's  
17 demonstrated capability to perform soil testing procedures  
18 within required limits and in compliance with parts 1512.0010 to  
19 1512.0085.

20 Subp. 3. **Check sample.** "Check sample" means a processed  
21 and prepared soil sample provided by the department to  
22 laboratories for performance evaluation.

23 Subp. 4. **Department.** "Department" means the department of  
24 agriculture.

25 Subp. 5. **Enrollment period.** "Enrollment period" means a  
26 period in which laboratories not previously certified or  
27 laboratories seeking initial certification after revocation may  
28 submit an initial certification application and fees of  
29 application and certification.

30 Subp. 6. **Initial fee.** "Initial fee" means the sum of the  
31 application fee and the annual certification fee provided in  
32 Minnesota Statutes, section 18C.141. This fee applies to  
33 laboratories requesting certification for the first time and to  
34 laboratories seeking certification after revocation.

35 Subp. 7. **Lapsed.** "Lapsed" means that fees have not been

1 F. most current copy of soil analysis and fertility  
2 recommendation report form used for Minnesota based clients.  
3 This requirement does not apply for laboratories that are not  
4 providing soil analysis and fertility recommendation services in  
5 Minnesota as indicated on the initial or renewal certification  
6 application.

7 1512.0025 TERM OF CERTIFICATION.

8 Laboratory certifications are valid from January 1 to  
9 December 31 and must be renewed annually. The department shall  
10 send renewal forms no later than 30 days before expiration of  
11 certification.

12 1512.0030 FEES.

13 Fees for application and certification are stated in  
14 Minnesota Statutes, section 18C.141. Applicable fees for  
15 initial or renewal certification must be submitted with an  
16 application. Fees may not be prorated. Land grant university  
17 soil analysis laboratories in Minnesota and those that are in  
18 states contiguous with Minnesota are exempt from all fees.

19 Laboratories that fail to pay the renewal fee by December  
20 31 of each year, as designated by postmark, must have their  
21 certifications classified as lapsed and are subject to initial  
22 fee charges to regain certification status. A laboratory  
23 certification must be reclassified as revoked if the initial or  
24 renewal fees payable are not postmarked within 60 days after the  
25 December 31 deadline.

26 1512.0035 MINIMUM STANDARDS FOR LABORATORY EQUIPMENT AND  
27 FACILITIES.

28 Each laboratory that performs soil analysis must maintain  
29 equipment and facilities that are adequate and appropriate for  
30 the services offered. Each laboratory must maintain the  
31 standards in items A and B.

32 A. Equipment must be maintained in proper working  
33 order and routinely checked to assure accuracy. Instruments  
34 must meet the specifications of the methodology for the analysis

1 being performed and must be maintained, monitored, and  
2 calibrated to assure accuracy.

3 B. The laboratory must follow a written plan of  
4 quality control assurance. The plan must describe policies and  
5 procedures used to:

6 (1) track soil samples from time of receipt to  
7 analysis;

8 (2) calibrate instruments, including frequency;

9 (3) maintain functional equipment, including  
10 routine maintenance procedures and schedules; and

11 (4) check internal quality control.

12 1512.0040 MINIMUM PERSONNEL STANDARDS.

13 Each laboratory that performs soil analysis must be  
14 supervised by persons who are responsible for the training and  
15 supervision of the laboratory staff. The supervisor must meet  
16 one of the following qualifications:

17 A. be a graduate of an accredited college with a  
18 bachelor of science degree and a graduate in one of the  
19 chemical, engineering, physical, or biological sciences; or

20 B. have five years prior experience in the  
21 supervision or operations of a laboratory that performs soil  
22 analysis.

23 1512.0045 RECORDS.

24 Records of sample receipt, sample analysis, soil fertility  
25 recommendations, and internal quality assurance must be  
26 maintained for at least one year.

27 1512.0050 APPROVED SOIL ANALYSIS METHODS AND PROCEDURES.

28 Soil analysis methods and procedures must be those  
29 applicable to Minnesota soils and conditions that are set forth  
30 in the most recent edition of the Recommended Chemical Soil Test  
31 Procedures for the North Central Region, North Central Regional  
32 Publication 221. This publication is incorporated by reference,  
33 is not subject to frequent change, and is available from the  
34 Minnesota State Law Library, the Minnesota Department of

1 Agriculture, Division of Agronomy Services, or the Soil Testing  
2 Laboratory, University of Minnesota, St. Paul.

3 Alterations in procedures which maintain the integrity of  
4 the analytical method are allowable if the check sample  
5 analytical data is within the one standard deviation from the  
6 mean range as denoted in part 1512.0065, subpart 6, and as  
7 specified in the North Central Regional Publication 221.

8 1512.0055 SOIL ANALYSIS METHOD OR PROCEDURE VARIANCE.

9 The department may grant a variance from requirements of  
10 part 1512.0050. To request a variance, a laboratory must  
11 provide a written request to the department including:

- 12 A. the specific methods or procedures for which the  
13 variance is being sought including analytical methodology;  
14 B. reasons for the request; and  
15 C. documentation and research to show correlation of  
16 analytical data to crop response and interpretation of the soil  
17 analysis to provide fertilizer recommendations for Minnesota  
18 soils and conditions.

19 The department shall review information submitted with the  
20 variance request in consultation with the soil testing advisory  
21 panel according to part 1512.0075. The department shall grant  
22 or deny the variance within 100 working days of receipt of the  
23 request. Analytical methods or procedures that have been  
24 granted a variance may be used by any laboratory requesting  
25 initial or renewal certification. Analytical methods or  
26 procedures that have been granted a variance must be published  
27 in the yearly certification program report and provided by any  
28 laboratory requesting certification. The department shall send  
29 written reasons for a denial of a request for variance within  
30 100 working days of receipt of request.

31 1512.0060 APPEAL OF ADMINISTRATIVE DECISION.

32 The department shall notify a laboratory in writing of the  
33 reasons for a decision to deny a variance or to deny, suspend,  
34 or revoke certification. The laboratory has 30 days from the  
35 date of receiving notice of the decision to appeal the

1 decision. A request to appeal the decision must be in writing  
2 to the department, must indicate the facts the laboratory  
3 disputes, and must be signed by the laboratory supervisor. The  
4 appeal may include a request for a personal meeting with the  
5 department for purposes of discussing disputed facts and  
6 findings. The department must consult with the advisory panel  
7 regarding the appeal. The department shall accept or deny the  
8 appeal and respond to the laboratory making the appeal within  
9 100 working days of receipt of the request.

10 1512.0065 ANALYZING CHECK SAMPLES AND ANALYTICAL DATA FOR  
11 GRANTING CERTIFICATION.

12 Subpart 1. Minimum laboratory analytical methods for  
13 laboratory certification. Laboratories desiring certification  
14 must analyze the check samples for the following parameters as a  
15 minimum requirement: Bray or Olsen phosphorus, potassium,  
16 nitrate-nitrogen, pH, and organic matter. Any remaining  
17 analysis methods, as recognized by North Central Regional  
18 Publication 221, are required only if soil fertility  
19 recommendations are made. Each check sample must be handled and  
20 analyzed in duplicate for all analysis methods and procedures  
21 for which the laboratory is requesting initial or renewal  
22 certification. Duplicate check samples must be analyzed on  
23 different days and reported as individual results.

24 Subp. 2. Reporting units on check sample analysis report.  
25 Analytical data of check samples must be reported in elemental  
26 form as follows:

27 A. nitrate-nitrogen, phosphorus, potassium,  
28 sulfate-sulfur, chloride, calcium, and magnesium to the nearest  
29 part per million (ppm);

30 B. organic matter to the nearest tenth of a  
31 percentage;

32 C. pH and buffer pH to the nearest tenth of a pH  
33 unit;

34 D. all micronutrients reported to the nearest tenth  
35 of a ppm; and

1 E. soluble salts reported to the nearest 0.1 mmhos/cm.

2 Subp. 3. Check sample processing and handling. Check  
3 samples, other than blind check samples referred to in subpart  
4 7, must be processed and prepared by the department or by a  
5 person under contract with the department according to approved  
6 soil analysis methods and procedures. Check samples must be  
7 shipped in secure containers and be ready for analysis upon  
8 receipt.

9 Subp. 4. Initial certification check samples. Upon  
10 receipt of the application form and application and  
11 certification fees, the department shall send eight check  
12 samples for analysis. Check samples, accompanied by analysis  
13 data forms and instructions, must be sent by the department to a  
14 laboratory applying for initial certification between September  
15 1 and December 31. The laboratory must submit analytical data  
16 to the department within 30 days of receipt of the check  
17 samples. Analytical data submitted after this deadline must be  
18 considered invalid. The laboratory may not be reimbursed for  
19 analysis costs incurred in obtaining initial certification.

20 Subp. 5. Renewal certification check samples.  
21 Laboratories applying for renewal certification must analyze two  
22 sets of four check samples on a semiannual basis. Check  
23 samples, accompanied by analysis data forms and instructions,  
24 must be sent by the department during the following time  
25 periods: March 1 to May 1 and August 1 to October 1. The  
26 laboratory must submit analytical data to the department within  
27 30 days of receipt of the check samples. Analytical data  
28 submitted after this deadline must be considered invalid. The  
29 laboratory may not be reimbursed for analysis costs incurred in  
30 obtaining renewal certification.

31 Subp. 6. Statistical guidelines for granting  
32 certification. The department shall compile analytical data  
33 submitted by laboratories for each set of check samples. Check  
34 sample analytical data from qualifying laboratories must be  
35 composited by the department to provide statistical means and  
36 standard deviations for each soil testing method. Check sample



1 analytical data points outside the range of plus or minus one  
2 standard deviation from the mean must be noted.

3 Statistical guidelines for determining initial and renewal  
4 certification are:

5 A. Initial certification. If more than 20 percent of  
6 a laboratory's individual check sample analytical data points  
7 are outside the range of plus or minus one standard deviation  
8 from the mean, the laboratory shall reanalyze check samples.  
9 Initial certification must be denied if more than 20 percent of  
10 a laboratory's check sample analytical data points are outside  
11 the range of plus or minus one standard deviation from the mean.

12 B. Renewal certification. If more than 20 percent of  
13 the analytical data points of each set of four check samples  
14 falls outside the range of plus or minus one standard deviation  
15 from the mean, the laboratory must reanalyze the check samples.  
16 The percent of analytical data points outside the range of plus  
17 or minus one standard deviation from the mean for both the  
18 analyzed and reanalyzed check samples must then be noted. Once  
19 both sets of semiannual check samples have been analyzed, the  
20 composite analytical data points from both sets of check samples  
21 must be combined to determine the percent that falls outside the  
22 range of plus or minus one standard deviation from the mean.

23 Renewal certification must be denied if more than 20 percent of  
24 the total annual composite analytical data points falls outside  
25 the range of plus or minus one standard deviation from the mean.

26 Subp. 7. Blind soil check samples to certified and  
27 uncertified laboratories. The department may conduct blind  
28 check samples on either certified or uncertified laboratories as  
29 stated in Minnesota Statutes, section 18C.141, subdivision 2,  
30 paragraph (d). For purposes of this subpart, "blind check  
31 sample" means a sample sent to a laboratory by the department  
32 under an assumed name, and in a manner to make it appear that  
33 the sample came from a client. Check sample preparation as  
34 stated in subpart 3 may not be required so that the identity of  
35 the sending party is not revealed. The department shall bear  
36 the cost of requested analyses for blind check samples. If

1 analytical data falls outside the range of plus or minus one  
2 standard deviation from the mean, the department shall consult  
3 with the laboratory concerning the discrepancy or inaccuracy of  
4 the blind check samples analytical data produced by the  
5 laboratory.

6 1512.0070 REPORTING CHECK SAMPLE ANALYTICAL DATA, STATISTICS,  
7 AND CERTIFIED LABORATORIES.

8 Subpart 1. Analytical data and statistical reporting. The  
9 department shall compile reports of analytical data submitted by  
10 laboratories and statistics for each set of check samples.  
11 Laboratories must remain unidentified on the report. Each  
12 laboratory participating in the certification program must  
13 receive a copy of its own data and summary statistics.

14 Subp. 2. Report of certified laboratories. The department  
15 shall compile a yearly report listing laboratories that meet the  
16 certification requirements of the Minnesota Soil Testing  
17 Laboratory Certification Program, and the analytical methods for  
18 which each laboratory is certified. Annual reports must be  
19 available April 1 of each year. Current lists of certified  
20 laboratories will be available from the department.

21 1512.0075 ADVISORY PANEL.

22 The department shall appoint a soil testing advisory panel  
23 to provide recommendations on appropriate soil analytical  
24 methods and procedures for Minnesota climate and conditions, and  
25 to provide technical evaluations of requests for analytical  
26 variances. The advisory panel must include representation from  
27 the Minnesota Department of Agriculture, the Agricultural  
28 Extension Service, the University of Minnesota College of  
29 Agriculture, the fertilizer industry, agricultural crop  
30 consultants, and the soil testing laboratory industry. The  
31 advisory panel shall meet at least once a year. Members shall  
32 serve three year terms and have equal voting power. Panel  
33 meetings must be open to the public.

34 1512.0080 LABORATORY INSPECTIONS.

1 The purpose of laboratory inspections is to investigate the  
2 general cleanliness of the laboratory, examine equipment used in  
3 soil analysis methods and procedures, and review qualifications  
4 of personnel. Inspections of laboratories must be conducted  
5 during normal business hours by the department to determine  
6 compliance with certification requirements. Inspections may be  
7 unannounced and done on a random basis.

8 1512.0085 SOIL ANALYSIS AND SOIL FERTILITY RECOMMENDATION  
9 REPORTING.

10 A. Analytical data of client soil samples must be  
11 reported in elemental form as follows:

12 (1) phosphorus (P), potassium (K), calcium, and  
13 magnesium to the nearest part per million (ppm);

14 (2) nitrate-nitrogen, sulfate-sulfur, and  
15 chloride in pounds per acre for the appropriate sampling depth;

16 (3) organic matter to the nearest tenth of a  
17 percentage;

18 (4) pH and buffer pH to the nearest tenth of a pH  
19 unit;

20 (5) all micronutrients reported to the nearest  
21 tenth of a ppm; and

22 (6) soluble salts reported to the nearest 0.1  
23 mmhos/cm.

24 B. If a certified laboratory provides soil fertility  
25 recommendations, the University of Minnesota soil fertility  
26 recommendations or that of another land grant university in a  
27 contiguous state must be provided in addition to other  
28 recommendations, and the source of the recommendations must be  
29 identified on the soil analysis and soil fertility  
30 recommendation report form. Land grant university soil  
31 fertility recommendations must be on the same soil analysis and  
32 soil fertility recommendation report form with other soil  
33 fertility recommendations as stated by the certified  
34 laboratory. If the soil analysis and soil fertility  
35 recommendation report form consists of more than one page, the

1 first page of the report form must conspicuously state that  
2 "Land Grant University Soil Fertility Recommendations Have Been  
3 Provided With This Report." A certified laboratory shall not  
4 provide soil fertility recommendations if a request from a  
5 client is made that only soil analysis information be provided  
6 on the soil analysis and soil fertility recommendation report  
7 form.

8 C. Certified laboratories that provide land grant  
9 university soil fertility recommendations must provide these  
10 recommendations from only one land grant university to the  
11 greatest extent possible. Land grant university soil fertility  
12 recommendations must conform to all conditions, requirements,  
13 and guidelines established for that state. Soil fertility  
14 recommendations of a land grant university from a state  
15 contiguous with Minnesota may be substituted if University of  
16 Minnesota soil fertility recommendations do not exist or if the  
17 selected soil fertility recommendations are more appropriate  
18 based on soil or climatic conditions. The origin of land grant  
19 university soil fertility recommendations from a state  
20 contiguous with Minnesota must be conspicuously stated on the  
21 soil analysis and soil fertility recommendation report form. If  
22 the certified laboratory makes a soil fertility recommendation  
23 in which no University of Minnesota or other suitable land grant  
24 university soil fertility recommendation from a contiguous state  
25 exist, the laboratory must state on the soil analysis and soil  
26 fertility recommendation report form that no land grant  
27 university soil fertility recommendations are available.  
28 Certified laboratories must update land grant university soil  
29 fertility recommendations on an annual basis.

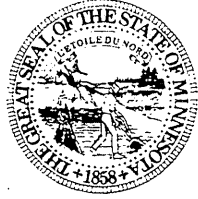
30 D. Certified laboratories must be certified for any  
31 analytical method used to analyze soil for which a soil  
32 fertility recommendation is made. If a certified laboratory is  
33 not certified for a particular analytical method, this must be  
34 noted on the soil analysis and soil fertility recommendation  
35 report form. If more than one approved analytical method exists  
36 in the North Central Regional Publication 221, the analytical

1 method used must be identified along with the soil fertility  
2 recommendation.

3           E. If soil analysis and soil fertility recommendation  
4 report forms are transferred and provided through computer,  
5 computer program, electronic, mail, or telephone networks from a  
6 certified laboratory, all requirements of parts 1512.0010 to  
7 1512.0085 must be met. A printed copy of a soil analysis and  
8 soil fertility recommendation report form must be provided to  
9 the client of the certified laboratory.

# Office of the Revisor of Statutes

## Administrative Rules



**TITLE:** Proposed Permanent Rules Relating to Soil Testing  
Laboratory Certification

**AGENCY:** Department of Agriculture

**MINNESOTA RULES:** Chapter 1512

**INCORPORATIONS BY REFERENCE:**

Part 1512.0050: Recommended Chemical Soil Test Procedures for the North Central Region, North Central Regional Publication 221. This publication is available from the Minnesota State Law Library, the Minnesota Department of Agriculture, Division of Agronomy Services, or the Soil Testing Laboratory, University of Minnesota, St. Paul.

The attached rules are approved for  
publication in the State Register

A handwritten signature in cursive script, reading "Craig E. Lindeke".

Craig E. Lindeke  
Senior Assistant Revisor