STATUTORY RULES OF NORTHERN IRELAND

1996 No. 513

AGRICULTURE

Fertilisers (Sampling and Analysis) Regulations (Northern Ireland) 1996

Made - - - -	*31st October 1996*
Coming into operation	*16th December 1996*

FERTILISERS (SAMPLING AND ANALYSIS) REGULATIONS (NORTHERN IRELAND) 1996

3a.

DETERMINATION OF NITRIC AND AMMONIACAL NITROGEN-ULSCH METHOD

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULTS

3b.

DETERMINATION OF NITRIC AND AMMONIACAL NITROGEN-ARND METHOD

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULTS

3c.

DETERMINATION OF NITRIC AND AMMONIACAL NITROGEN-DEVARDA METHOD

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULTS

4a.

DETERMINATION OF TOTAL NITROGEN IN CALCIUM CYANAMIDE — IN THE ABSENCE OF NITRATE

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULT

4b.

DETERMINATION OF TOTAL NITROGEN IN CALCIUM CYANAMIDE — IN THE PRESENCE OF NITRATE

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULT

5.

DETERMINATION OF TOTAL NITROGEN IN UREA

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULT

6.

DETERMINATION OF CYANAMIDE NITROGEN

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULT

7.

DETERMINATION OF BIURET IN UREA

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULTS

8a.

DETERMINATION OF DIFFERENT FORMS OF NITROGEN IN THE SAME SAMPLE — IN THE PRESENCE OF CYANAMIDE NITROGEN

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. VERIFICATION OF RESULTS

8b.

DETERMINATION OF DIFFERENT FORMS OF NITROGEN IN THE SAME SAMPLE — IN THE ABSENCE OF CYANAMIDE NITROGEN

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE

Remarks

1. Remarks
2. The titration may also be carried out using an indicator...

8. VERIFICATION OF RESULTS

9a.

EXTRACTION OF TOTAL PHOSPHORUS BY MINERAL ACIDS

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE

9b.

EXTRACTION OF TOTAL PHOSPHORUS BY MINERAL ACIDS

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE

7. PROCEDURE

9c.

EXTRACTION OF PHOSPHORUS BY 2% CITRIC ACID

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENT
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE

9d.

EXTRACTION OF PHOSPHORUS BY NEUTRAL AMMONIUM CITRATE

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS

4.1 Neutral ammonium citrate solution (pH = 7.0)

5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE

9e.

EXTRACTION OF PHOSPHORUS BY ALKALINE AMMONIUM CITRATE (PETERMANN'S METHOD) AT 65°C

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE

9f.

EXTRACTION OF PHOSPHORUS BY ALKALINE AMMONIUM CITRATE (PETERMANN'S METHOD) AT AMBIENT TEMPERATURE

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENT
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE

9g.

EXTRACTION OF PHOSPHORUS BY ALKALINE AMMONIUM CITRATE (JOULIE'S METHOD)

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. NOTE

9h.

EXTRACTION OF PHOSPHORUS BY WATER

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. APPARATUS
5. PREPARATION OF SAMPLE
6. PROCEDURE

10.

DETERMINATION OF EXTRACTED PHOSPHORUS(Gravimetric method using quinoline phosphomolybdate)

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PROCEDURE
7. EXPRESSION OF RESULTS

11.

DETERMINATION OF WATER-SOLUBLE POTASSIUM

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULTS

12.

DETERMINATION OF CHLORIDES IN THE ABSENCE OF ORGANIC MATERIAL

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. EXPRESSION OF RESULT

13a.

DETERMINATION OF FINENESS OF GRINDING — DRY METHOD

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. APPARATUS
5. PROCEDURE
6. EXPRESSION OF RESULTS

13b.

DETERMINATION OF THE FINENESS OF GRINDING OF SOFT NATURAL PHOSPHATES

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PROCEDURE
7. EXPRESSION OF RESULTS
8. REMARK

14.

METHODS OF ANALYSIS AND TEST PROCEDURES FOR AMMONIUM NITRATE FERTILISERS CONTAINING MORE THAN 28% NITROGEN BY WEIGHT

14a.

METHOD FOR THE APPLICATION OF THERMAL CYCLES

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE AND DEFINITION
4. APPARATUS
5. PROCEDURE

14b.

DETERMINATION OF THE OIL RETENTION VALUE

1. SCOPE AND FIELD OF APPLICATION
2. DEFINITION
3. PRINCIPLE
4. REAGENT
5. APPARATUS
6. PROCEDURE
7. EXPRESSION OF RESULTS

14c.

DETERMINATION OF COMBUSTIBLE INGREDIENTS

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. REAGENTS
4. APPARATUS
5. PROCEDURE
6. BLANK TEST
7. EXPRESSION OF RESULTS

14d.

DETERMINATION OF THE pH VALUE

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. REAGENTS
4. APPARATUS
5. PROCEDURE
6. EXPRESSION OF RESULTS

14e.

DETERMINATION OF THE PARTICLE SIZE

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. APPARATUS
4. PROCEDURE
5. EVALUATION OF RESULTS
6. EXPRESSION OF RESULTS

14f.

DETERMINATION OF THE CHLORINE CONTENT (AS CHLORIDE ION)

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. REAGENTS

14g.

DETERMINATION OF COPPER

15.

EXTRACTION OF TOTAL CALCIUM, TOTAL MAGNESIUM, TOTAL SODIUM AND TOTAL SULFUR IN THE FORM OF SULFATES

16.

EXTRACTION OF TOTAL SULFUR

17.

EXTRACTION OF WATER-SOLUBLE CALCIUM, MAGNESIUM, SODIUM AND SULFUR (IN THE FORM OF SULFATES)

18.

EXTRACTION OF WATER-SOLUBLE SULFUR

19.

EXTRACTION AND DETERMINATION OF ELEMENTAL SULFUR

20.

MANGANIMETRIC DETERMINATION OF EXTRACTED CALCIUM FOLLOWING PRECIPITATION IN THE FORM OF OXALATE

21.

DETERMINATION OF MAGNESIUM BY ATOMIC ABSORPTION SPECTROMETRY

8. EXPRESSION OF RESULTS

22.

DETERMINATION OF MAGNESIUM BY COMPLEXOMETRY

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. CONTROL TEST
7. PREPARATION OF THE SOLUTION TO BE ANALYSED
8. DETERMINATION
9. EXPRESSION OF RESULTS
10. REMARKS

23.

DETERMINATION OF SULFATES

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PROCEDURE
7. EXPRESSION OF RESULTS

24.

DETERMINATION OF THE SODIUM EXTRACTED

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. CALIBRATION SOLUTIONS
7. PREPARATION OF SOLUTIONS TO BE MEASURED
8. DETERMINATION
9. CALCULATION OF RESULTS

25.

TRACE ELEMENTS AT A CONCENTRATION LESS THAN 10%

25a.

EXTRACTION OF TOTAL TRACE ELEMENTS

1. SCOPE
2. FIELD OF APPLICATION

3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. DETERMINATION

25b.

EXTRACTION OF WATER-SOLUBLE TRACE ELEMENTS

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SAMPLE
7. PROCEDURE
8. DETERMINATION

25c.

REMOVAL OF ORGANIC COMPOUNDS FROM FERTILISER EXTRACTS

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PROCEDURE

25d.

DETERMINATION OF TRACE ELEMENTS IN FERTILISER EXTRACTS BY ATOMIC ABSORPTION SPECTROMETRY (GENERAL PROCEDURE)

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25e.

DETERMINATION OF BORON IN FERTILISER EXTRACTS BY MEANS OF SPECTROMETRY WITH AZOMETHINE-H

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE

4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25f.

DETERMINATION OF COBALT IN FERTILISER EXTRACTS BY ATOMIC ABSORPTION SPECTROMETRY

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25g.

DETERMINATION OF COPPER IN FERTILISER EXTRACTS BY ATOMIC ABSORPTION SPECTROMETRY

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25h.

DETERMINATION OF IRON IN FERTILISER EXTRACTS BY ATOMIC ABSORPTION SPECTROMETRY

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25i.

DETERMINATION OF MANGANESE IN FERTILISER EXTRACTS BY ATOMIC ABSORPTION SPECTROMETRY

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25j.

DETERMINATION OF MOLYBDENUM IN FERTILISER EXTRACTS BY SPECTROMETRY OF A COMPLEX WITH AMMONIUM THIOCYANATE

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

25k.

Determination of ZINC in Fertiliser Extracts by ATOMIC ABSORPTION SPECTROMETRY

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

26.

TRACE ELEMENTS AT A CONCENTRATION GREATER THAN 10%

26a.

Extraction of Total Trace Elements

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS

5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. DETERMINATION

26b.

Extraction of Water-Soluble Trace Elements

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF SAMPLE
7. PROCEDURE
8. DETERMINATION

26c.

REMOVAL OF ORGANIC COMPOUNDS FROM FERTILISER EXTRACTS

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PROCEDURE

26d.

Determination of Trace Elements in Fertiliser Extracts by Atomic Absorption Spectrometry (General Procedure)

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

26e.

Determination of BORON in Fertiliser ExtrACTS BY MEANS OF ACIDIMETRIC TITRATION

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED

7. PROCEDURE
8. BLANK SOLUTION
9. BORON (B) VALUE OF THE SODIUM HYDROXIDE SOLUTION (4.4)
10. EXPRESSION OF RESULTS

26f.

Determination of COBALT in Fertiliser Extracts by THE GRAVIMETRIC METHOD WITH 1-NITROSO-2-NAPHTHOL

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

26g.

Determination of COPPER in Fertiliser Extracts by THE TITRIMETRIC METHOD

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. PREPARATION OF THE SOLUTION TO BE ANALYSED
6. PROCEDURE
7. EXPRESSION OF RESULTS

26h.

Determination of IRON in Fertiliser Extracts by ATOMIC ABSORPTION Spectrometry

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

26i.

Determination of MANGANESE in Fertiliser Extracts by TITRATION

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS

5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

26j.

Determination of MOLYBDENUM in Fertiliser Extracts by THE GRAVIMETRIC METHOD WITH 8-HYDROXYQUINOLINE

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

26k.

Determination of ZINC in Fertiliser Extracts by ATOMIC ABSORPTION Spectrometry

1. SCOPE
2. FIELD OF APPLICATION
3. PRINCIPLE
4. REAGENTS
5. APPARATUS
6. PREPARATION OF THE SOLUTION TO BE ANALYSED
7. PROCEDURE
8. EXPRESSION OF RESULTS

Part II

1. General
2. Reagents
3. Water
4. Apparatus
5. Methods of Analysis

1.

PREPARATION OF THE SAMPLE FOR ANALYSIS

1. INTRODUCTION
2. SCOPE AND FIELD OF APPLICATION
3. PRINCIPLE
4. APPARATUS
5. PROCEDURE
   WARNING
6. SPECIAL CASES
7. FLUID FERTILISERS

2.

DETERMINATION OF MOISTURE

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. APPARATUS
6. PREPARATION OF SAMPLE
5. PROCEDURE
6. EXPRESSION OF RESULT

3.

DETERMINATION OF TOTAL NITROGEN CHROMIUM POWDER REDUCTION METHOD

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. REAGENTS
4. APPARATUS
5. PREPARATION OF SAMPLE
6. PROCEDURE
7. EXPRESSION OF RESULTS

4.

DETERMINATION OF UREA

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. REAGENTS
4. APPARATUS
5. PREPARATION OF SAMPLE
6. PROCEDURE
7. EXPRESSION OF RESULTS

5.

DETERMINATION OF POTASSIUM-GRAVIMETRIC METHOD

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE
3. REAGENTS
4. APPARATUS
5. PREPARATION OF SAMPLE
6. PROCEDURE
7. EXPRESSION OF RESULTS

6.

DETERMINATION OF THE NEUTRALISING VALUE IN LIMING MATERIALS

1. SCOPE AND FIELD OF APPLICATION
2. PRINCIPLE

Part I,

Method 2

Part I,

Method 2

Part I,

Method 2

Part I,

Method 2

Part I,

Method 3c

Part I,

Method 8a & b

Part I,

Method 8a & b

Part I,

Method 9d

Part I,

Method 14c

SCHEDULE 3

Explanatory Note