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ICS 13.080.10
CCS B 10

LY

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

LY/T 1234-2015

Replacing LY/T 1234-1999; LY/T 1235-1999; LY/T 1236-1999

Potassium determination methods of forest soils

森林土壤钾的测定

(English Translation)

Issued on: October 19, 2015 **Implemented on: January 1, 2016**

Issued by: State Forestry Administration

Preview: page 1 of 5 shown, 9 in the full document. Complete English PDF, instant download:
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Table of Contents

Foreword
Introduction
1 Scope
2 Normative references
3 Determination of total potassium
3.1 Alkali melting method
3.2 Acid Dissolution
4 Determination of available potassium
4.1 Method points
4.2 Reagents
4.3 Instruments
4.4 Determination step
4.5 Calculation Results
4.6 Allowable deviation
5 Slow potassium determination
5.1 Method points
5.2 Reagents
5.3 Instrument
5.4 Determination step
5.5 Calculation Results
5.6 Tolerance
Reference

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces LY/T 1234-1999 Determination of total potassium in forest soil, LY/T 1235-1999 Determination of Slow-acting Potassium in Forest Soil Ding "and LY/T 1236-1999" forest soil available potassium determination. " the main changes compared with LY/T 1234-1999, LY/T 1235-1999 and LY/T 1236-1999 are as follows.

--- Increasing the normative references;

--- Increasing the atomic absorption spectrophotometer and inductively coupled plasma

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emission spectrometer;

--- Modify the acid solution to be measured solution preparation, reducing the amount of soil samples and acid dosage, a clear temperature setting;

--- Modify the slow heating potassium determination of equipment, heating thermostat changed to oil bath heating, modify the determination steps.

This standard is proposed and managed by the State Forestry Administration.

This standard was drafted. Forestry Research Institute of China Academy of Forestry.

Introduction

Total potassium decomposition of forest soil samples can be divided into two kinds of alkali melting method and acid solution. Alkali melting includes sodium carbonate melting and sodium hydroxide melting.

Sodium carbonate melting method is more common in the world, but we must use platinum crucible, which makes some domestic laboratories due to conditions can not be used A method. Now the general use of sodium hydroxide melting method, available silver crucible instead of platinum crucible, can be used for general laboratories, and decomposition More complete preparation of the test solution can be measured at the same time all-phosphorus and potassium. Acid solution method using hydrofluoric acid - perchloric acid method, this method is more convenient, is international on the general method of decomposition of soil potassium samples prepared by the test solution can also measure a variety of elements.

Available potassium soil, including exchangeable potassium and water-soluble potassium, the current widespread use of 1mol/L ammonium acetate as a leaching agent, the resulting ratio Relatively stable and reproducible, it separates the exchangeable potassium on the surface of soil colloids and the non-exchangeable potassium in the lattice layer of clay minerals without leaching the number of leaching times or the leaching time increased significantly. Soil slow potassium mainly refers to the layered silicate mineral layers and grain boundaries that part of the potassium, the most common method of extraction is 1mol/L nitric acid boiling method, the method not only the extraction time is short, the amount of reagent consumption is small and more the coefficient of variation of the second determination is small and the amount of potassium leached has a good correlation with the amount of potassium absorbed by plants when continuously planted, Potential for Soil Potassium Supply.

Determination of potassium in the test solution flame photometry, atomic absorption spectrometry and inductively coupled plasma-atomic emission spectrometry.

Forest soil potassium determination

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1 Scope

This standard specifies the determination of potassium in forest soils, determination of potassium in forest soils by alkali fusion and acid dissolution method, using 1mol/L ammonium acetate Extracting and Determining Forest Soil Quick Potassium and 1mol/L Nitric Acid Boiling and Leaching Determination of Slow - acting Potassium in Forest Soil.

This standard applies to the determination of total potassium, available potassium and slow-acting potassium in forest soils.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 601 chemical reagent standard titration solution preparation GB/T 603 test methods used in the preparation of preparations and products GB/T 6682 analytical laboratory water specifications and test methods Collection and preparation of forest soil samples

3.1.1 Method points

Soil samples were strongly alkali-soluble, insoluble silicate decomposition of soluble compounds, soil mineral lattice potassium into soluble potassium State, at the same time insoluble phosphate in the soil is also converted to soluble phosphate, diluted with dilute sulfuric acid solution melt, which is the simultaneous determination of the whole Potassium and phosphorus test solution.

3.1.2 Reagents

All reagents except those indicated are of analytical grade. Analysis of water should be consistent with GB/T 6682 secondary water specifications. Test required Standard titration solution, preparations and products, did not indicate when the other requirements according to GB/T 601, GB/T 603 provisions.

3.1.2.1 Sodium hydroxide

NaOH, granular.

3.1.2.2 Anhydrous ethanol

C2H5OH.

Preview: page 4 of 5 shown, 9 in the full document. Complete English PDF, instant download:
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3.1.2.3 Hydrochloric acid

HCl, p = 1.19 g/mL.

3.1.2.4 Sulfuric acid

H2SO4, p = 1.84 g/mL.

Preview: page 5 of 5 shown, 9 in the full document. Complete English PDF, instant download:
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