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NY/T 1121.12-2006

Soil testing -

Part 12: Method for determination of soil total chrome

土壤检测

第 12 部分：土壤中总铬的测定

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Foreword

NY/T 1121 Soil testing is a standard series, which include the following parts:

- Part 1: Soil sampling, processing, and reposition;
- Part 2: Method for determination of soil pH;
- Part 3: Method for determination of soil mechanical composition;
- Part 4: Method for determination of soil bulk density;
- Part 5: Method for determination of soil cation exchange capacity in calcareous soil;
- Part 6: Method for determination of soil organic matter;
- Part 7: Method for determination of available phosphorous in acid soil;
- Part 8: Method for determination of soil available boron;
- Part 9: Method for determination of soil available molybdenum;
- Part 10: Method for determination of soil total hydrargyrum;
- Part 11: Method for determination of soil total arsenic;
- Part 12: Method for determination of soil total chrome;
- Part 13: Method for determination of soil exchangeable calcium and magnesium;
- Part 14: Method for determination of soil available sulphur;
- Part 15: Method for determination of soil available silicon;
- Part 16: Method for determination of total water-soluble salt;
- Part 17: Method for determination of soil chloride ion content;
- Part 18: Method for determination of soil sulphate content;

.....

This part is part 12 of NY/T 1121.

This part was proposed by AND shall be under the jurisdiction of Ministry of Agriculture of the People's Republic of China.

Soil testing -

Part 12: Method for determination of soil total chrome

1 Scope of application

This part is applicable to the determination of chrome in various soils.

2 Method summary

After sulphuric acid, nitric acid, and phosphoric acid digestion, chromium compounds in the soil are converted into soluble substance; USE potassium permanganate to oxidize chromium into hexavalent chromium; USE sodium azide to reduce and eliminate the excessive potassium permanganate; under acidic conditions, hexavalent chromium reacts with diphenylcarbazide (DPC) to form a purple-red compound, which is measured spectrophotometrically at a wavelength of 540 nm.

3 Instruments and equipment

3.1 Spectrophotometer

3.2 Centrifuge

3.3 Electric hot plate

4 Reagents and solutions

The reagents and water used in this test method, unless otherwise stated, refer to analytical grade reagents and grade 1 water as specified in GB/T 6682. The solution, if not specified, is an aqueous solution.

4.1 Nitric acid (excellent grade pure, $\rho = 1.42$)

4.2 Sulphuric acid (excellent grade pure, $\rho = 1.84$)

4.3 Phosphoric acid (excellent grade pure, 85%)

4.4 Potassium permanganate (excellent grade pure)

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