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Interested committees:

Title: Draft BS ISO 23400 Guidelines for the determination of organic carbon and nitrogen stocks and their variations in mineral soil at field scale.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

DRAFT INTERNATIONAL STANDARD

ISO/DIS 23400

ISO/TC 190

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Voting begins on:
2020-07-17

Voting terminates on:
2020-10-09

Guidelines for the determination of organic carbon and nitrogen stocks and their variations in mineral soil at field scale

ICS: 13.080.01

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IMPORTANT — Please use this updated version dated 2020-06-18, and discard any previous version of this DIS. Annexes C to I have been deleted.

This document is circulated as received from the committee secretariat.



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The committee responsible for this document is ISO/TC 190.

Introduction

Soil is involved in the biogeochemical cycles of carbon (C) and nitrogen (N), and thus is a key compartment for climate regulation either by emitting greenhouse gases (GHGs) or by sequestering C [1]. Soils are the largest terrestrial reservoir of organic carbon, accounting for more carbon than contained in atmosphere or biota. Consequently, relatively small changes in soil carbon stocks can equate to considerable exchanges with other actively cycling carbon pools, such as the atmosphere. Estimation of soil organic carbon stock changes is one of the main methods applied to determine long-term carbon fluxes and to design carbon sequestration strategies. Soil organic carbon (SOC) is the balance between inputs (e.g. plant residues, manure ...) and biologically mediated losses. Information on soil total N stocks is valuable, because adequate N is critical for plant production while excessive N is an environmental hazard. Leakage of nitrous oxide (N_2O) from terrestrial systems to the atmosphere (where it enhances radiative forcing and may catalyse stratospheric O_3 destruction) is one hazard if excessive N use. The ratio of organic C to total N stock may also provide insight to SOC stability and potential for element retention in the soil. Climate policies promote actions regarding the protection and increase of SOC stocks. Such measures require standardized methods to assess the current SOC stocks at the relevant scale (e.g. plot, farm, region) and to verify the efficiency of soil carbon sequestration actions. This guideline is dedicated to the measurement of carbon and nitrogen stocks in soils and to the detection of their temporal variations.

