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Second edition
2012-03-01

Soil quality — Determination of the effects of pollutants on soil flora —

Part 1:

Method for the measurement of inhibition of root growth

Qualité du sol — Détermination des effets des polluants sur la flore du sol —

Partie 1: Méthode de mesurage de l'inhibition de la croissance des racines



Reference number
ISO 11269-1:2012(E)

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Published in Switzerland

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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 main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11269-1 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

This second edition cancels and replaces the first edition (ISO 11269-1:1993), which has been technically revised.

ISO 11269 consists of the following parts, under the general title *Soil quality — Determination of the effects of pollutants on soil flora*:

- *Part 1: Method for the measurement of inhibition of root growth*
- *Part 2: Effects of contaminated soil on the emergence and early growth of higher plants*

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Introduction

Chemical analysis of soil samples or waste materials to be disposed on soil, together with ecotoxicological testing, provides substantial evidence of the suitability of the soil for arable production, or gives information on the potential environmental risk resulting from the disposal of wastes such as sewage sludge on farmland. There is also a need to assess the quality of the soil after reclamation of industrial sites and colliery tips or when capping landfill sites. As the ability of the soil to grow crops is the main criterion, a rapid-growth test has been developed, based on seedling growth in controlled environmental conditions.

Two major prerequisites of a phytotoxicity test are that it provides consistently reliable results and that it can be used at any time of the year. It is therefore essential that seeds be grown in a controlled environment to ensure optimal growing conditions which can be maintained for any number of tests, producing reproducible results over a long period of time.

The test method described in this part of ISO 11269 can be used to compare soils, to monitor changes in their activity or to determine the effect of added chemicals or materials (compost, sludge, waste).