

# ISO 10872:2020-05 (E)

## Water and soil quality - Determination of the toxic effect of sediment and soil samples on growth, fertility and reproduction of *Caenorhabditis elegans* (Nematoda)

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Reagents and media	3
6 Apparatus	5
7 Reference substance	6
8 Organisms	7
8.1 Test organism	7
8.2 Food organism	7
9 Stock- and pre-cultures	7
9.1 Stock cultures	7
9.1.1 <i>Caenorhabditis elegans</i>	7
9.1.2 <i>Escherichia coli</i>	7
9.2 Pre-culture	8
10 Procedure	8
10.1 Preparation of food medium	8
10.2 Preparation of test material and controls	8
10.2.1 Soil	8
10.2.2 Sediment	9
10.2.3 Pore water, elutriate, extract	9
10.2.4 Solution of reference substance	9
10.3 Test	10
10.4 Nematode separation	10
10.5 Measurements and calculations	10
10.5.1 Recovery	10
10.5.2 Males	10
10.5.3 Growth and fertility	11
10.5.4 Reproduction	11
10.6 Timetable of the test	12
11 Validity criteria	13
12 Expression of results	13
13 Test report	14
Annex A (informative) Determination of maximal water holding capacity (WHC <sub>max</sub> )	15
Annex B (informative) Figures and photos of adult worms <i>C. elegans</i>	16
Annex C (informative) Micropipette method (10.3)	18
Annex D (informative) Performance data	19
Bibliography	22