

# ISO 11133:2014-05 (E)

## Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vii
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>3.1</b>	<b>General terms and definitions .....</b>	<b>2</b>
<b>3.2</b>	<b>Terminology of performance testing .....</b>	<b>2</b>
<b>3.3</b>	<b>Terminology of culture media .....</b>	<b>3</b>
<b>3.4</b>	<b>Terminology for test microorganisms .....</b>	<b>6</b>
<b>4</b>	<b>Quality assurance management .....</b>	<b>7</b>
<b>4.1</b>	<b>Documentation .....</b>	<b>7</b>
<b>4.2</b>	<b>Storage .....</b>	<b>8</b>
<b>4.3</b>	<b>Laboratory preparation of media .....</b>	<b>8</b>
<b>4.4</b>	<b>Storage and shelf-life of prepared media .....</b>	<b>11</b>
<b>4.5</b>	<b>Preparation for use .....</b>	<b>12</b>
<b>4.6</b>	<b>Incubation of solid media in Petri dishes .....</b>	<b>14</b>
<b>4.7</b>	<b>Disposal of media .....</b>	<b>14</b>
<b>5</b>	<b>Test organisms for performance testing .....</b>	<b>14</b>
<b>5.1</b>	<b>General .....</b>	<b>14</b>
<b>5.2</b>	<b>Selection of test organisms .....</b>	<b>14</b>
<b>5.3</b>	<b>Preservation and maintenance of test organisms .....</b>	<b>15</b>
<b>5.4</b>	<b>Microorganisms for performance testing .....</b>	<b>16</b>
<b>6</b>	<b>Quality control and performance testing of culture media .....</b>	<b>19</b>
<b>6.1</b>	<b>General requirements .....</b>	<b>19</b>
<b>6.2</b>	<b>Physical and chemical quality control .....</b>	<b>19</b>
<b>6.3</b>	<b>Microbiological quality control .....</b>	<b>19</b>
<b>6.4</b>	<b>General requirements for microbiological performance testing .....</b>	<b>20</b>
<b>6.5</b>	<b>Performance evaluation and interpretation of results .....</b>	<b>21</b>
<b>6.6</b>	<b>Confirmation media and reagents .....</b>	<b>22</b>
<b>7</b>	<b>Methods for performance testing of solid culture media .....</b>	<b>22</b>
<b>7.1</b>	<b>General .....</b>	<b>22</b>
<b>7.2</b>	<b>Methods for quantitative tests .....</b>	<b>22</b>
<b>7.3</b>	<b>Testing of culture media used for membrane filtration .....</b>	<b>24</b>
<b>7.4</b>	<b>Methods for qualitative tests .....</b>	<b>24</b>
<b>8</b>	<b>Methods for performance testing of liquid culture media .....</b>	<b>25</b>
<b>8.1</b>	<b>General .....</b>	<b>25</b>
<b>8.2</b>	<b>Quantitative tube method for performance testing of liquid enrichment media (dilution to extinction method) .....</b>	<b>25</b>
<b>8.3</b>	<b>Qualitative tube method for performance testing of selective liquid media .....</b>	<b>26</b>
<b>8.4</b>	<b>Qualitative single tube method (turbidity) for performance testing of liquid media .....</b>	<b>27</b>
<b>9</b>	<b>Methods for performance testing of diluents and transport media .....</b>	<b>28</b>

9.1	General .....	28
9.2	Method for testing diluents .....	28
9.3	Method for testing transport media .....	29
10	Documentation of test results .....	30
10.1	Information provided by the manufacturer .....	30
10.2	Traceability .....	30
Annex A (informative) Designation of the components of culture media in International Standards on microbiological analysis of food, animal feed and water .....		31
Annex B (normative) Preparation of reference stock and working culture .....		33
Annex C (normative) Flow charts of methods for performance testing .....		38
Annex D (informative) Example of card for recording test results of culture media .....		42
Annex E (normative) Test microorganisms and performance criteria for culture media commonly used in food microbiology .....		44
Annex F (normative) Test microorganisms and performance criteria for culture media commonly used in water microbiology .....		66
Annex G (normative) Use of control charts to monitor quantitative testing of solid culture media ....		78
Annex H (informative) Quality assurance of culture media -- Troubleshooting .....		85
Annex I (informative) Quantitative testing of liquid media .....		87
Annex J (normative) Definition of microbiological performance tests for standardized culture media ....		91
Bibliography .....		95