

International Standard

ISO 23016-1

Fine bubble technology — Agricultural applications —

Part 1:

Test method for evaluating the growth promotion of hydroponically grown lettuce

First edition

iteh.ai)

ISO/PRF 23016-1

https://standards.iteh.ai/catalog/standards/iso/733ef9dc-68b1-429a-a137-14e78acfea2c/iso-prf-23016-1

PROOF/ÉPREUVE

ISO 23016-1:2025(en)

iTeh Standards (https://standards.iteh.ai) Document Preview

ISO/PRF 23016-1

https://standards.iteh.ai/catalog/standards/iso/733ef9dc-68b1-429a-a137-14e78acfea2c/iso-prf-23016-1



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

ISO 23016-1:2025(en)

Foreword Introduction							
				1		pe	
					-		
2		mative references					
3	Terr	ms and definitions	1				
4	Test 4.1 4.2 4.3 4.4 4.5	t method for growth promotion performance on lettuce Conditions of test environment Test system and related apparatus Materials for test Preparation for test 4.4.1 Confirmation of the working conditions of the fine bubble line system 4.4.2 Hydroponic bed system 4.4.3 Operator(s) and inspector(s) 4.4.4 Operation manual Preliminary test for confirmation of reproducibility 4.5.1 General 4.5.2 Confirmation of reproducibility 4.5.3 Actions when there is a statistically significant difference Test procedure 4.6.1 Preparation of lettuce seedling	2 2 4 4 4 4 4 4 4 4 4				
	nex A (ir nex B (ir ps para	4.6.2 Growth system 4.6.3 Sampling 4.6.4 Records 4.6.5 Number of tests Calculation of degree of growth promotion treport Informative) Example of test results for lettuce growth promotion performance Informative) Example of recording format for measurement figures of environmental ameters	5 5 5 6 6 7				
Ann	ex C (in	nformative) Example of confirmation test results	11				
Bibl	liograp	hy	20				

ISO 23016-1:2025(en)

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 281, Fine bubble technology.

This first edition of ISO 23016-1 cancels and replaces ISO/TS 23016-1:2019, which has been technically revised.

The main changes are as follows:

— a new Annex C has been added to give an example of confirmation test results.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.