

**Working Group on Biochemical and Molecular Techniques
and DNA-Profiling in Particular**

BMT/18/13

**Eighteenth Session
Hangzhou, China, October 16 to 18, 2019**

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HORIZONTAL METHODS FOR MOLECULAR BIOMARKER ANALYSIS

Document prepared by an expert from the International Organization for Standardization (ISO)

Disclaimer: this document does not represent UPOV policies or guidance

The annex to this document contains a copy of a presentation on “Horizontal methods for molecular biomarker analysis”, to be made at the eighteenth session of the BMT.

[Annex follows]

ISO TC 34 Food Products/SC 16



Horizontal Methods for
Molecular Biomarker Analysis

Spotted Lantern Fly

**REPORT FROM THE COMMITTEE MANAGER MICHAEL SUSSMAN
2019**

The image shows a Spotted Lantern Fly (Lycophotia delicata) with its wings spread. The wings are brown with black spots and red patches. The body is black and yellow. The ISO logo is centered above the fly.

TC 34/SC 16



- Established September 2008
- Ten Years Ago

Standardization of biomolecular testing methods applied to foods, feeds, seeds and other propagules of food and feed crops including:

Methods that analyze nucleic acids [e.g., polymerase chain reaction (PCR), genotypic analysis and sequencing], proteins [e.g. enzyme linked immunosorbent assay (ELISA)], and other suitable methods. Variety identification and detection of plant pathogens.

*The scope does not include food microbiological methods.

Officers



Ray Shillito, Chairperson
Business Support Manager
Regulatory Science Seeds and
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Mike Sussman,
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*US Department of Agriculture,
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ANSI Hosts the TC 34/SC 16 Secretariat

American National
Standards Institute
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Steven P. Cornish, ANSI
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Delegated

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ISO TC 34/SC 16 US TAG
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- Marie-Noelle Bourquin
- Technical Project Manager

- Nicola Perou
- Editorial Program Manager



DEMOGRAPHICS

21

published ISO standards *
under the direct responsibility
of ISO/TC 34/SC 16

15

ISO standards under development *
under the direct responsibility
of ISO/TC 34/SC 16

25

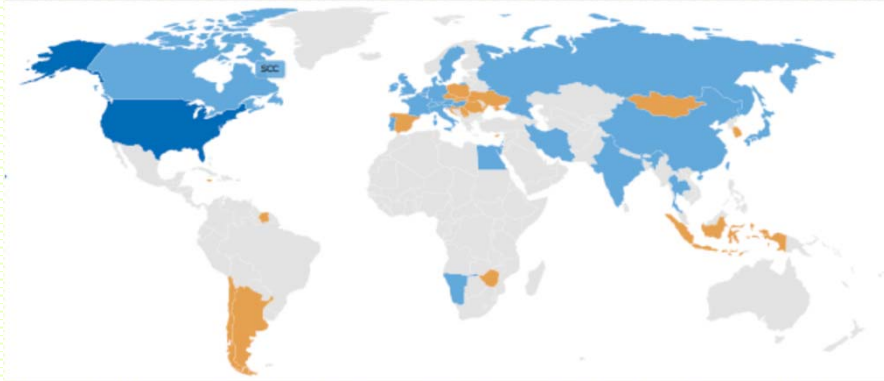
Participating members

18

Observing members

* number includes updates

Membership



Recently Published

WG 5 Qualitative Methods (disbanded)

ISO/TS 16393:2019

Molecular biomarker analysis -- Determination of the performance characteristics of qualitative measurement methods and validation of methods

Project Leader: **Ray Shillito**

WG 8 Meat Speciation

ISO 20813:2019

Molecular biomarker analysis -- Methods of analysis for the detection and identification of animal species in foods and food products (nucleic acid-based methods) -- General requirements and definitions

Project Leader: **Hiroki Nakai**

Systematic Review

ISO 13495:2013

Foodstuffs -- Principles of selection and criteria of validation for varietal identification methods using specific nucleic acid

ISO 16578:2013

Molecular biomarker analysis -- General definitions and requirements for microarray detection of specific nucleic acid sequences

ISO/TS 21569-3:2015

Horizontal methods for molecular biomarker analysis -- Methods of analysis for the detection of genetically modified organisms and derived products -- Part 3: Construct-specific real-time PCR method for detection of P35S-pat-sequence for screening genetically modified organisms

ISO 21572:2013

Foodstuffs -- Molecular biomarker analysis -- Protein-based methods

All approved for another five years

Minor Revision

ISO/NP TS 21569-3 [Under development]

Horizontal methods for molecular biomarker analysis -- Methods of analysis for the detection of genetically modified organisms and derived products -- Part 3: Construct-specific real-time PCR method for detection of P35S-pat-sequence for screening genetically modified organisms

10.99

Committee resolution is required to abandon this revision

Technical Revision

ISO/DIS 21572 [Under development]
Foodstuffs -- Molecular biomarker analysis --
Protein-based methods

New Title: Foodstuffs — Molecular biomarker analysis
— Immunochemical methods for detection and
quantification of proteins

Next step is FDIS Vote

Ongoing Projects

- Meat speciation
 - Specific species PCR
 - Multiplex PCR
 - DNA Sequencing
- Seed/Grain Subsampling
- ISO Thermal Nucleic Acid Amplification

Thank you



[End of Annex and of document]