



**BMT/12/20**

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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA


**WORKING GROUP ON BIOCHEMICAL AND MOLECULAR  
TECHNIQUES AND DNA PROFILING IN PARTICULAR**

**Twelfth Session**  
**Ottawa, Canada, May 11 to 13, 2010**

HORIZONTAL BIOMARKER ANALYSIS


ISO/TC 34/SC 16

*Document prepared by an expert from ISO/TC 34/SC 16*



## Report of the Secretariat

### Horizontal Biomarker Analysis ISO/TC 34/SC 16



**Scope:** Horizontal methods for molecular biomarker analysis


- Standardization of biomolecular testing methods applied to: foods; feeds; seeds and other propagules of food and feed crops.
- The scope includes 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.
- The scope also includes variety identification and detection of plant pathogens.
- The scope does not include food microbiological methods.



### Membership of SC16


- **Participating Countries: 16**
  - Argentina ( IRAM )
  - Belgium ( NBN )
  - Canada ( SCC )
  - China ( SAC )
  - France ( AFNOR )
  - Germany ( DIN )
  - India ( BIS )
  - Iran ( ISIRI )
  - Japan ( JISC )
  - Korea Rep. ( KATS )
  - Netherlands ( NEN )
  - Russian Federation ( GOSTR )
  - Switzerland ( SNV )
  - Thailand ( TISI )
  - United Kingdom ( BSI )
  - USA ( ANSI )
- **Observing Countries: 7**
  - Austria ( ASI )
  - Croatia ( HZN )
  - Cyprus ( CYS )
  - Italy ( UNI )
  - Poland ( PKN )
  - Romania ( ASRO )
  - Slovakia ( SUTN )
- **Liaison Organizations:**
  - Joint Research Commission\*
  - AOCCS\*
  - AACCC International\*

\*Application under vote




### Published Standards: 6

- **ISO/TS 21098:2005**  
Foodstuffs -- Nucleic acid based methods of analysis of genetically modified organisms and derived products -- Information to be supplied and procedure for the addition of methods to ISO 21569, ISO 21570 or ISO 21571 [90.92](#)
- **ISO 21569:2005**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products - Qualitative nucleic acid based methods [90.93](#)
- **ISO 21570:2005**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products -- Quantitative nucleic acid based methods [90.93](#)
- **ISO 21571:2005**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products -- Nucleic acid extraction [90.93](#)
- **ISO 21572:2004**  
Foodstuffs -- Methods for the detection of genetically modified organisms and derived products -- Protein based methods [90.92](#)
- **ISO 24276:2006**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products -- General requirements and definitions [90.93](#)




### Standards under Development

- **ISO/NP TS 21098**  
Foodstuffs -- Nucleic acid based methods of analysis of genetically modified organisms and derived products -- Information to be supplied and procedure for the addition of methods to ISO 21569, ISO 21570 or ISO 21571 10.99
- **ISO/NP 21569**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products -- Qualitative nucleic acid based methods 10.99
- **ISO/NP 21570**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products -- Quantitative nucleic acid based methods 10.99
- **ISO/NP 21571**  
Foodstuffs -- Methods of analysis for the detection of genetically modified organisms and derived products -- Nucleic acid extraction 10.99
- **ISO/CD 21572**  
Foodstuffs -- Methods for the detection of genetically modified organisms and derived products -- Protein based methods 30.20
- **ISO 24276:2006/NP Amd 1** 10.99



### New Works in Progress: 2


- **ISO/WD 13484**  
General requirements for molecular biology using analysis for detection and identification of pathogenic and destructive organisms of the plants and derived products 20.20
- **ISO/WD 13495**  
Principles of selection and criteria of validation for the varietal identification methods using specific nucleic acid analysis 20.20



**Actions from the 2<sup>nd</sup> plenary meeting in Tokyo, Japan (9 -11 February, 2010)**

The Committee agreed to the development of the following NWIPs:

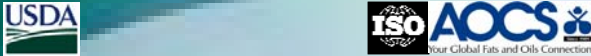
- Terms and Definitions used in molecular biomarker analysis
- Validation requirements for Qualitative methods (as discussed by the ISO/TC 34 CAG)
- The use of microarray detection



**Actions from the 2<sup>nd</sup> plenary meeting in Tokyo, Japan (9 -11 February, 2010)**

The Committee also agreed on the formation of Working groups to deal with the following standards:

- WG 1: New Annexes (Co-convenors: Grohmann/Zhang)
- WG 2: Revision of ISO/TS 21098 (Convenor: Shillito)
- WG 3: ISO/WD 13495 - Varietal Identification (Convenor: Forzy)
- WG 4: ISO/WD 13484 - Plant Pathogens (Convenor: Bois)



**Actions from the 2<sup>nd</sup> plenary meeting in Tokyo, Japan (9 -11 February, 2010)**

The Committee also made the following decisions regarding ISO 21569, 21570, 21571 and 21572:

- New annexes currently under review would be added to Amendments of standards that are presently under consideration.
- Annexes submitted to the 2<sup>nd</sup> Plenary Meeting would be reviewed by a WG jointly led by DE/CN.

Future revisions of ISO 21569, 21570, 21571 and 21572 would remove the annexes and prepare them as either IS or TS, depending on their validation status.



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