

CEN and ISO activities on international standardization of methods of analysis for Feed

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■ CEN / TC 327

- Introduction
- Work program and results
- Cooperation with Community Reference Laboratories
- Conclusions
- Future activities

■ ISO/TC 34/SC 10

- Short introduction
- Results

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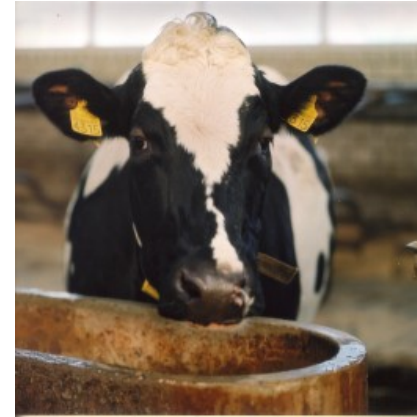
■ ISO/TC 34/SC 10

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About CEN/TC 327 Animal Feedingstuffs

- CEN = European Committee for Standardization
- *Voluntary* technical standards
- **Scope** of CEN / TC 327: Standardization of methods of sampling and analysis for animal feedingstuffs, including chemical, biochemical, physical and microscopic methods

Importance of **standardised** feed analysis



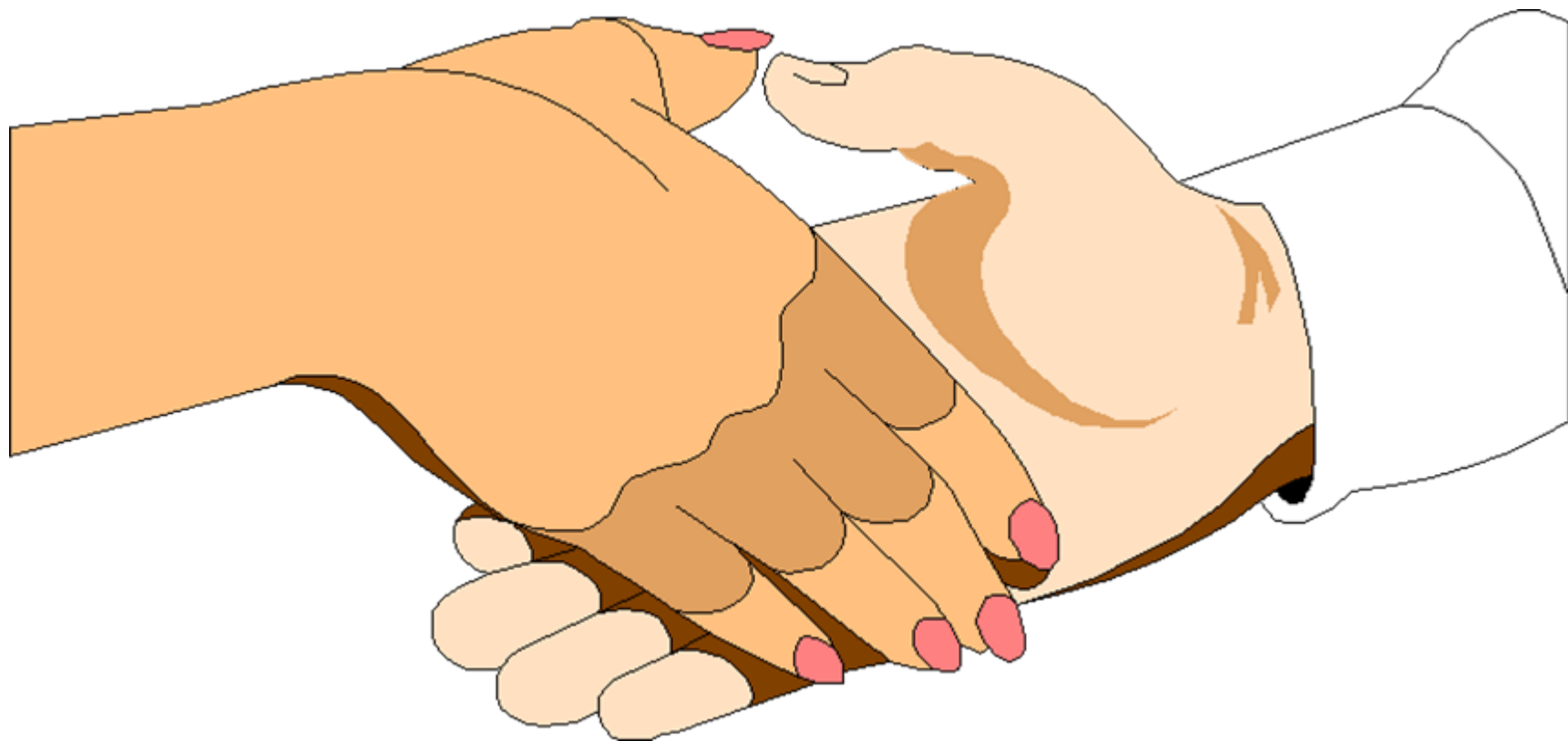
- **Feed Safety for Food Safety:** Contaminants and other undesirable substances in feed can be transferred to food of animal origin (meat, milk, eggs)
- **Animal health and welfare**
- **Safe environment**

About CEN/TC 327 Animal Feedingstuffs

- Activities of CEN / TC 327 started in **2001**
- **Mandates** from the **European Commission (EC)**:
 - Financing from EC
 - Agreement to deliver CEN standards with deadlines (within 3.5 years)
- **First mandate** (10 methods): M 315; signed November 2002
- **Second mandate** (17 methods): M 382; signed December 2007

Stakeholders of CEN/TC 327

- European Commission
- National governments: official control
- Feed producers
- Producers of feed materials, e.g. raw materials, additives, minerals
- Traders in feed and feed materials



Importance of work of CEN/TC 327

- Regulation EC/882/2004 (Official Control of Feed and Food), Article 11: Methods of sampling and analysis:
 - “Sampling and analysis methods used in the context of official controls shall comply with relevant Community rules or,
 - If no such rules exist, with internationally recognised rules or protocols, **for example those that the European Committee for standardisation (CEN) has accepted**”

Members and liaisons of CEN / TC 327

- 30 member countries
- 11 liaison organisations, among which:
 - European Commission (DG SANCO)
 - ISO/TC 34/SC 10 “Animal Feedingstuffs”
 - Several European Industrial Federations

Method requirements

- Validated by means of international collaborative studies
- Limit of quantification must be sufficiently low to meet EC-legislation
- Specificity must be established for different feed matrices

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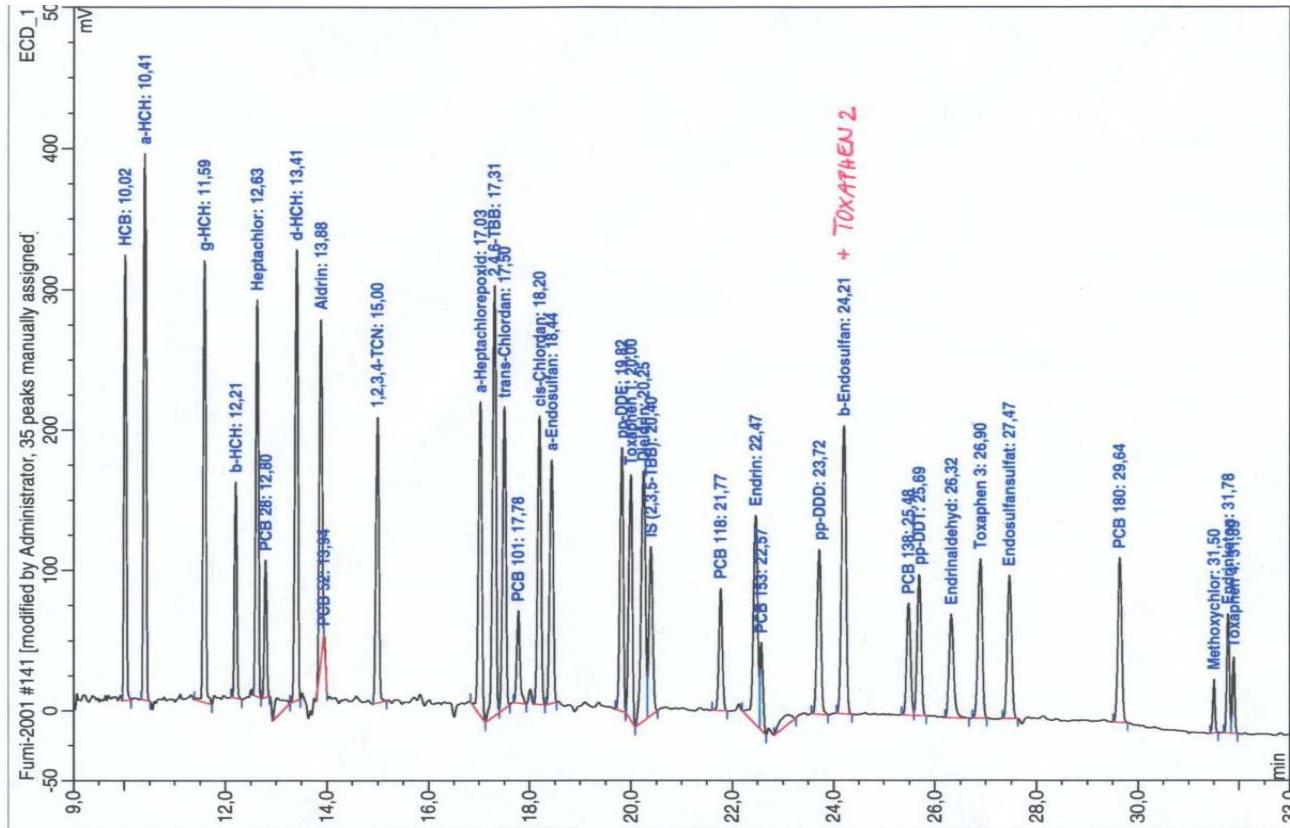
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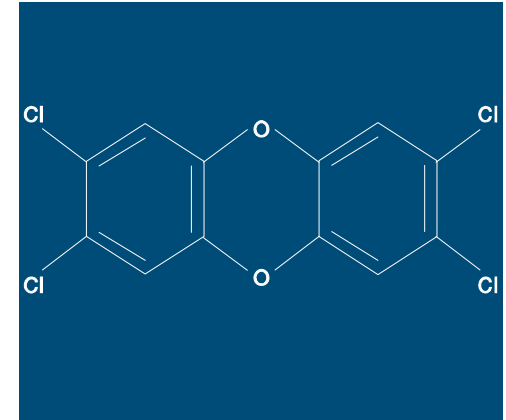
Work program and results of CEN / TC 327

- **Organic contaminants (1):**
 - **PCB's and organochlorine pesticides:**
 - Development of 2 standards (*published*):
 - GC/MS
 - GC/ECD

Method for OC's / PCB's: 20 analytes



Work program and results of CEN / TC 327



■ Organic contaminants (2):

- **Dioxins and dioxin-like PCB's:** High Resolution Gas Chromatography – Mass Spectrometry (HR-GC-MS)
- Origin of dioxins:
 - Mainly: Incineration or heating processes involving chlorinated hydrocarbons, e.g. bakery offals, transformer oils

Work program and results of CEN / TC 327

■ Mycotoxins:

- Methods: HPLC with immuno-affinity clean-up, e.g. for
- Aflatoxin B₁: *published*
- Ochratoxin A
- Fumonisin B1 and B2

Work program and results of CEN / TC 327

- **Heavy metals, trace elements and minerals:**
 - **Lead and cadmium: Graphite furnace AAS (GF-AAS):** *published*
 - **Inorganic arsenic (“speciation”):** HG-AAS after selective separation with Solid Phase Extraction (SPE)

Work program and results of CEN / TC 327

■ Feed additives and drugs

- Coccidiostats (HPLC - methods), e.g.
 - Monensin, salinomycin and narasin: ISO 14183: *published*
 - Nicarbazin
 - Semduramycin
- Probiotics (*beneficial* microorganisms): Enumeration and Polymerase Chain Reaction (PCR) - methods

Work program and results of CEN / TC 327

■ Composition

- **Specific sugars:** High-performance anion-exchange chromatography – Pulsed amperometric detection: *published*
- **Near Infrared Spectroscopy (NIR)** for composition of feed

Work program and results of CEN / TC 327

■ Sample preparation

- Influence of sample preparation methods on the concentration of substances to be analysed, e.g.
 - Subsampling
 - Drying of wet feedingstuffs; influence on volatile or heat sensitive analytes
 - Joint ad hoc working group with ISO TC 34/SC 10 under CEN-lead

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Collaboration between CEN/TC 327 and CRL's

- Feed additives: JRC-IRMM, Geel, Belgium
- Mycotoxins: JRC-IRMM, Geel, Belgium
- Dioxins: CVUA, Freiburg, Germany
- Heavy metals: JRC-IRMM, Geel, Belgium
- Animal proteins: CRA-W, Gembloux, Belgium

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Conclusions

- Activities of CEN TC 327 are strongly governed by the **mandates** of the European Commission
- Strong focus on items related to **feed safety**
- Successful results through **cooperation between different parties involved**, viz. regulatory control labs, representatives from EC (DG SANCO), industrial branche organizations and feed industries

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Future activities

- New third mandate from the European Commission ?
 - Discussions have started about the needs of EC
 - One of the topics could be: method standardization for **animal proteins**
 - Guidelines for Polymerase Chain Reaction (PCR) methods ?

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About ISO/TC 34/SC 10 Animal Feedingstuffs

- ISO = International Organization for Standardization
- *Voluntary* technical standards
- **Scope** of ISO/TC 34/SC 10: same as for CEN/TC 327
- Strong cooperation with CEN/TC 327

About ISO/TC 34/SC 10 Animal

Feedingstuffs

- Active since many years (1980 or earlier ?)
- Active members (*participating in meetings*):
 - Many European countries (CEN members)
 - Thailand, Japan
 - Canada, USA
- China also is a member but until now not active
- Chairmanship and secretariat was covered by The Netherlands until 2008

About ISO/TC 34/SC 10 Animal

Feedingstuffs

- Due to lack of financing the Dutch Standardization Institute (NEN) has decided in 2008 to stop the secretariat
- At the same moment the chairman (from NL) has also decided to stop his activities
- Consequently the activities for worldwide standardization of methods for feed have been stopped until a new secretariat country and chairman have been found

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Results of ISO/TC 34/SC 10

- **Methods for Composition (*published*), e.g.**
 - Crude protein, fat, fibre and ash
 - Amino acids
 - Moisture
 - Fatty acids

Results of ISO/TC 34/SC 10

- **Methods for Feed Additives (*published*), e.g.**
 - Vitamins A and E
 - Ionophoric coccidiostats: monensin, narasin and salinomycin

Results of ISO/TC 34/SC 10

- **Other methods (*published*), e.g.**
 - Trypsin inhibitor activity of soya
 - Sampling

Acknowledgements

- Dutch Standardization Institute
 - Secretariat of CEN/TC 327
 - Secretariat of ISO/TC 34/SC10
- CEN Central Secretariat, Brussels, Belgium
- ISO Central Secretariat, Geneva, Switzerland
- Work of many project leaders



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG



ANNOUNCEMENT

3rd International FEED SAFETY Conference
- Methods and Challenges -

6 – 7 October 2009

RIKILT – Institute of Food Safety in Wageningen
website: www.feedsafety.org



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Thank you for your attention

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