The challenges of standardizing food categorization in the European Union
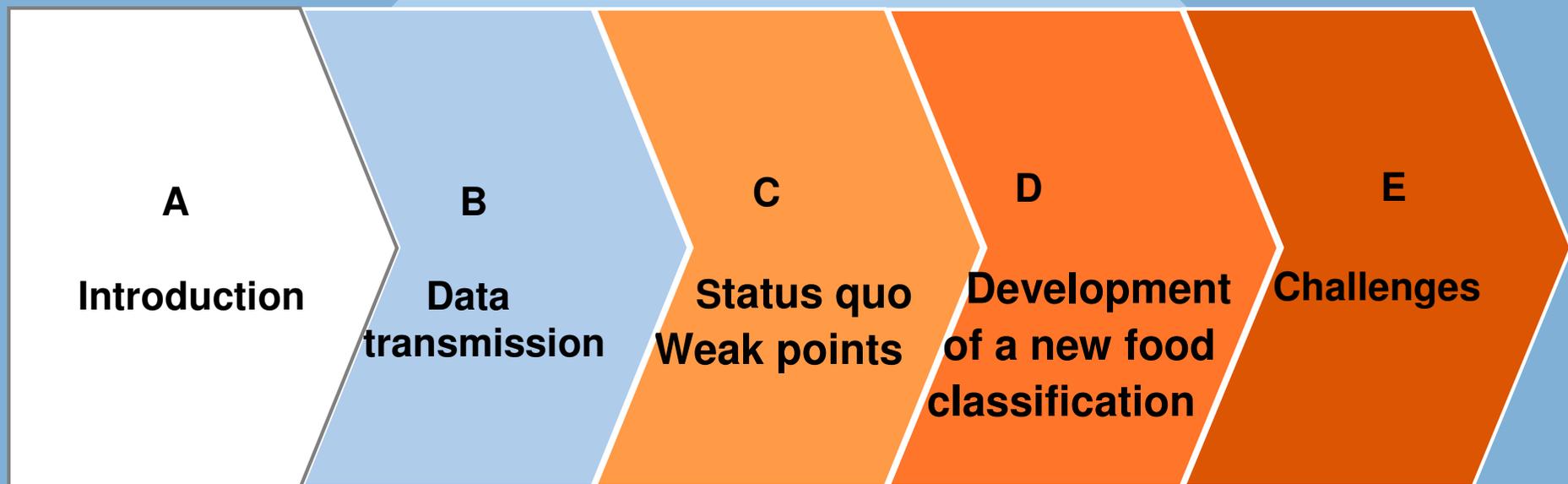
Terms:

Classification ≈ Categorization ≈ Sorting ≈ Cataloguing

➢ **Describing, characterizing, denominating, naming, specifying of products**

➢ **Comparison of similar products**

➢ **Aggregation of information on similar products**

➢ **Recovery of older information**

Standarization of food classification – what for?

➢ **Consolidation and merging of data**

➢ **Comparision of information (data) from different sources**

➢ **The three „C":**
   Composition – Consumption – Content (=occurence)

➢ **Effectivity of official food control**

➢ **Exchange of data between different organizations**

EFSA-project „Food classification and data model"

Objectives of EFSA Unit „Data Collection":

➢ **Promote automatic transmission of data**

➢ **Minimise the manual intervention at EFSA side**

➢ **Support the collection of different variables in different data collections**

Specific objectives of the project:

➢ **Define a food classification which supports the data collection system**
  - •**Compatible with existent data collections**
  - •**Support translations between different standard terminologies**

➢ **Define a standardised list of variables for data collections (data model)**

Full title: „Development of a standard food classification and data model as a basis for the collection of chemical occurrence data"

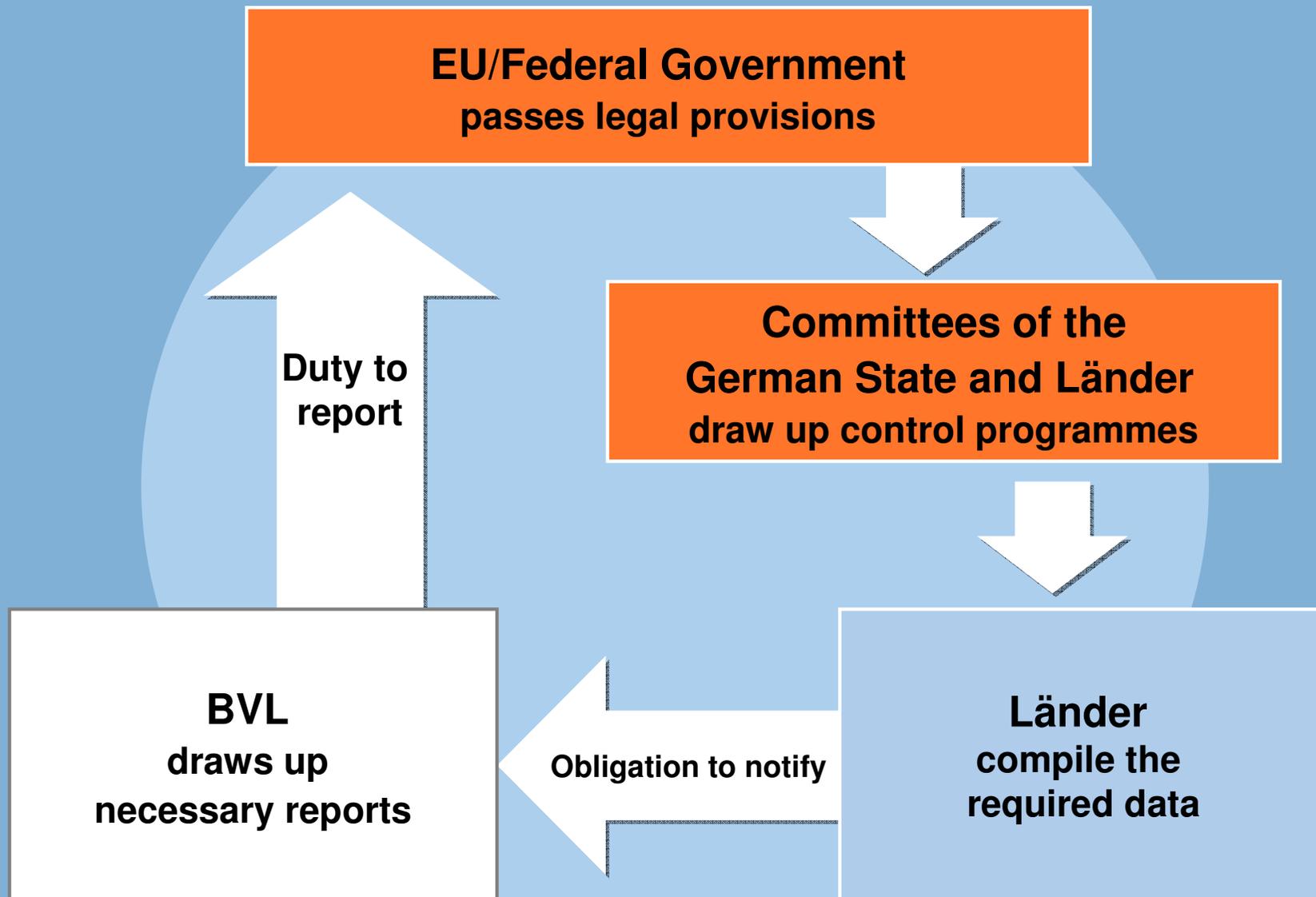# EFSA-project „Food classification and data model"

Facts:

➢ **Started end of December 2007**

➢ **Duration one year**

➢ **Co-operation with 9 member states and Switzerland**

➢ **1st coordinating meeting in April 2008**

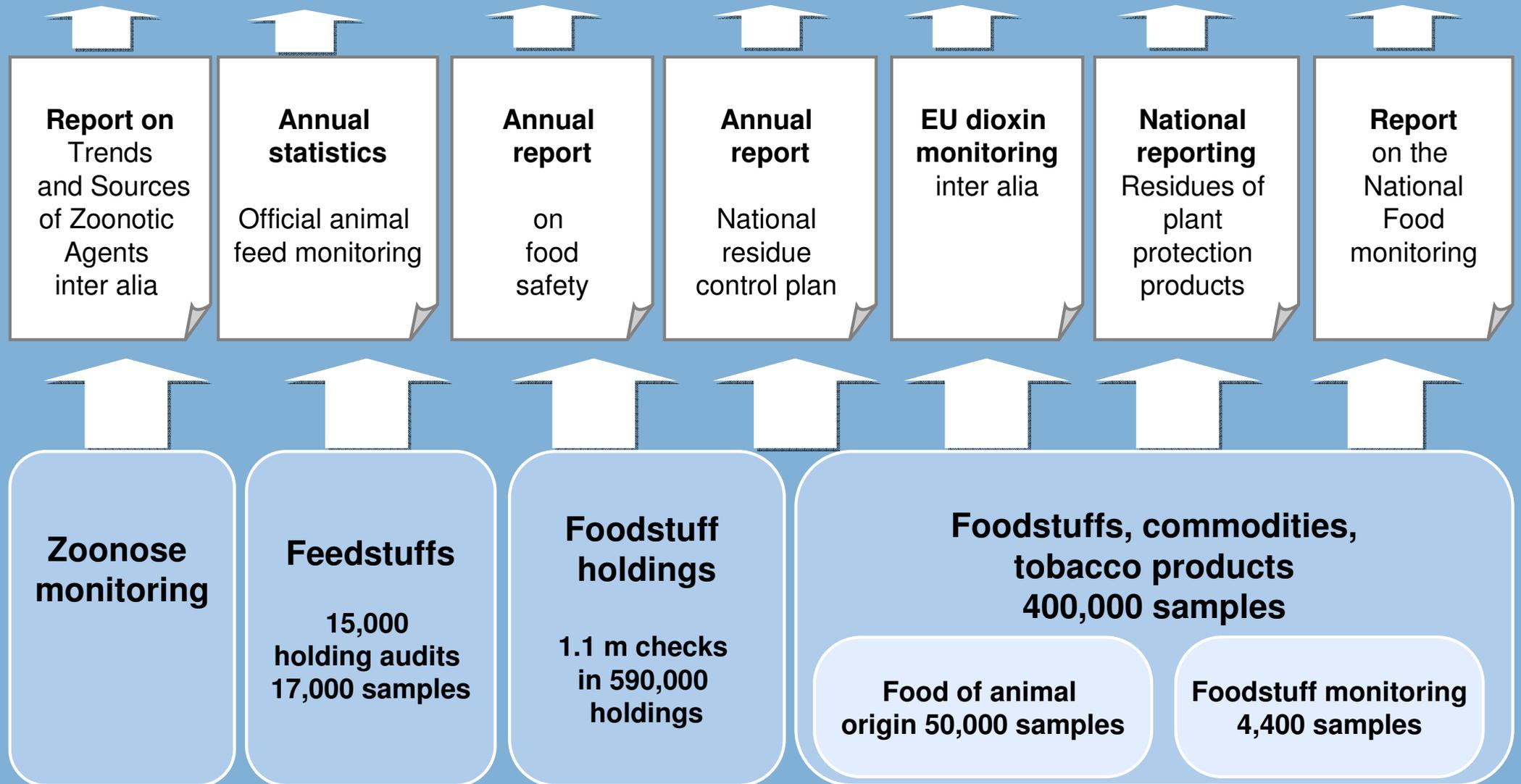➢ **Test of data collection in autumn 2008**

Reporting and compulsorily notifiable issues

EU/Federal Government
passes legal provisions

Committees of the German State and Länder
draw up control programmes

Länder compile the required data

Obligation to notify

BVL draws up necessary reports

Duty to report

Bundesamt für
Verbraucherschutz und
Lebensmittelsicherheit

Risk analysis, evaluation, management and legislation

Report on Trends and Sources of Zoonotic Agents inter alia

Annual statistics Official animal feed monitoring

Annual report on food safety

Annual report National residue control plan

EU dioxin monitoring inter alia

National reporting Residues of plant protection products

Report on the National Food monitoring

Zoonose monitoring

Feedstuffs 15,000 holding audits 17,000 samples

Foodstuff holdings 1.1 m checks in 590,000 holdings

Foodstuffs, commodities, tobacco products 400,000 samples

Food of animal origin 50,000 samples

Foodstuff monitoring 4,400 samples

Standardized and automated data transmission

➢ **Starting point: foodstuff monitoring**

➢ **Uniform encoding method: data encoding using 27 encoding catalogues (ADV catalogues).**

➢ **Standardised interface: fixed data format, 35 fields**

➢ **approx. 60 reporting offices in the Federal States**

➢ **Plausibility checks decentralised by the data sender**

➢ **Additional quality checks centrally by the BVL.**

➢ **Centralised management: catalogues are managed by a workgroup made up of the German State and the Federal States and updated semi-annually.**

➡ **Data transmission throughout Germany in a uniform manner since 1994**

➡ **Transmission of over 8 million data sets in 2007**

Kodier-system	Matrix-kode	Matrix (Untersuchungsgut)
001	010000	Milch
001	010100	Milch unbearbeitete
001	010103	Einzelgemelk
001	010104	Viertelgemelk
001	010105	Vorzugsmilch

27 binding catalogues, e.g.:

- Catalogue no. 3:   Matrix (goods to be analysed)

- Catalogue no. 4:   Sampling and reporting reasons

- Catalogue no. 7:   Reasons for complaints

- Catalogue no. 8:   Types of holdings

- Catalogue no. 10:   States of origin

- Catalogue no. 12:   Processed state of the audited food

- Catalogue no. 13:   Packaging of the goods to be analysed

- Catalogue no. 16:   Parameters (e.g. contents to be analysed)

- Catalogue no. 21:   Collections of methods

Use of AVV Düb interface

Suitable for the following monitoring areas:

- **National Food monitoring**
- **Residues of Pesticides**
- **German residue control in live animals and animal products**
- **Some coordinated programmes, e.g. analysis of ochratoxin A, uranium in mineral water**
- **Dioxin monitoring**
- **Data for the analysis of consumer goods and cosmetics**
- **Analysis of food to detect microbiological contamination**

Berichte zur
Lebensmittelsicherheit 2006

Lebensmittel-Monitoring

C

**Status quo
Weak points**

Rigid catalogue system
Examples:

➢ Catalogue 3 "Matrices" many redundancies; not compatible with Federal Food Code and international classifications.

➢ Catalogue 8 "Types of holding" has to be adapted to conform to the new legislation, i. e. inclusion of holding types from the field of animal feed.

➢ Catalogue 11 "Further details of origin" only has a single field which is needed for several competing details, e.g. "Fishing areas" and "Qualitative description of the pollution of a town".

➢ Catalogue 21"Method collection" contains only collections of analysis methods.

Code	Food
021030	Yoghurt made from skimmed milk with fruit or processed fruit
021065	Yoghurt made from skimmed milk with fruit or processed fruit and other added foods
…	…
034607	Processed cheese and preparations, three-quarters fat with gherkins and capsicums
034705	Processed cheese and preparation, half-fat with pepper
…	…
050125	Hens' eggs, class A extra, weight class XL
050126	Hens' eggs, class A extra, weight class L

Weaknesses

- **Each new aspect requires a new entry in the Catalogue.**
- **Designations are compiled, which makes them inflexible, e.g. including processing state, fat levels, quality, size, colour.**
- **Some terms are duplicated with only slight differences.**

Poor compatibility with national and international classifications:

➢ **51 top-level groups in the ADV matrix catalogue for food**

➢ **21 groups for EU reporting of official foodstuff monitoring**

➢ **Special groupings for EFSA e.g. in accordance with the Codex Alimentarius**

➢ **Special groupings in accordance with the maximum residue limit regulation (RHmV)**

D

Development of a new food classification

Properties

➢ **Unequivocal, standardised designation of matrices and the expansion to include all monitoring areas covered by the Regulation (EC) no. 882/2004**

➢ **Possibility to record descriptive properties (facetting)**

➢ **Reduction of repetitions**

➢ **Simple to expand**

➢ **Compatible with national and international classifications like the Federal Food Code, Codex Alimentarius, customs nomenclatures**

Structure broken down into

➢ **„Basic food list"**

➢ **„Catalogue of properties" (facet catalogue)**

Additionally as an aid to data entry „Term list"

Basic food list

- **Consists of higher-level terms**
- **Simplifies the recording of goods to be analysed for the purposes of data transmission**
- **Describes food but not in detail with all its properties**

– **Contents: the entire Food and Feed Code (LFGB)**

– **Based on the ADV matrix catalogue, duplicates removed**

– **Link to facet catalogue: Every food type is assigned valid properties to complete the description**

Entry
Milk
Dairy produce
Combined dairy produce
Acidified milk produce
…
Hard cheese
Semi-hard cheese
…
Carcases (max. quartered)
Cuts of meat (including processed meat)
Meat processing
Raw sausage
Boiled sausage
Water-heated sausage
Salt-cured meat, …

Facet catalogue:

Contains terms describing properties and features of products (expressions of properties)

- Each facet contains relevant expressions of properties
- The number of valid facets is defined specifically for each food group
- Parallel codes can be given, e.g. LanguaL codes or the old ADV code

Facets	Examples
Origin/type	Animal, plant or chemical foundation from which the food is manufactured, e.g. beef, gooseberry, water, …
Heat treatment	Type of treatment of the food using heat, e.g. heat treated, boiled, pasteurised, …
Ingredients	Additives, e.g. fruit, dyes, …
Pickled in…	Medium in which pickled, e.g. fruit juice, aspic, salt solution, …
Quality details	e.g. extra, fine, …
Processing	Further processing stages, e.g. deburred, smoked, preserved, …
…	…

Term list:

Input aids to accelerate and simplify data input

– **Contents: frequent, commonly used food designations, many also from old ADV catalogue**

– **Each term is automatically linked to a food and characteristic facets**

– **Smart search functions: finds not only terms in which the word or part of a word occurs, but also similar sounding terms and synonyms**

Comparison of old and new: Example using jams

ADV catalogue

- **410101 Strawberry jam extra**
- **410102 Raspberry jam extra**
- **410103 Blackberry jam extra**
- **...**
- **413000 Jam from soft fruits, calorific value**

Basic food list	Facet: origin/type	Facet: quality	Facet: preservation method	Facet: declaration
Jam	Strawberry	extra	sterilised	reduced calorific value
Jelly	Raspberry	simple	boiled	...
Marmalade	Blackberry		pasteurised	
Processed fruit	Red currant		...	
...	...			

Term list

Strawberry jam

+

Facet: quality

reduced calorific value

extra

simple

Bundesamt für
Verbraucherschutz und
Lebensmittelsicherheit

Futtermittel | Lebensmittel | Bedarfsgegenstände

Milch und Milchprodukte

Ei und Eiprodukte

Fleisch und Fleischerzeugnisse

Fische, Krusten-, Schalen-,
Weichtiere und sonstige Tiere
und Erzeugnisse

Fette und Öle

Obst, Gemüse, Kartoffeln und
Pilze und -Erzeugnisse

Nüsse, Ölsamen und
-erzeugnisse

Zusammengesetzte
Lebensmittel und zubereitete
Speisen

Suppen, Brühen und Saucen

Getreide und getreideähnliche
Pflanzen, Getreideprodukte
und Backwaren

Kräuter, Gewürze und
Würzmittel und Würzsoßen

Nicht alkoholische Getränke

Alkoholische Getränke

Eis und Dessert

Kakao, Schokolade und
kakaohaltige Erzeugnisse und
Süßwaren

Honige, Zucker und süße
Brotaufstriche

Katalog

Bitte wählen Sie aus den Gruppen das Basislebensmittel aus
oder suchen Sie nach einem Eintrag:

Suchbegriff: [Sahne] [Suche starten]

Ihre Suche ergab:

Sahnedickmilch
Sahnesauermilch
Molkensahne
Molkenmischerzeugnis aus Molkensahne
Sahneschokolade
Sahneschokoladeüberzugsmasse
Sahneerzeugnis
Kaffeesahne
Schlagsahne
Sahnepulver
Blocksahne

Screenshot of matrix catalogue, new (II)

Management and updating of the catalogues

Catalogues are available to users and the general public via the Internet

Online research opportunities
- For terms, groups etc.
- "Smart" searches; multilingual
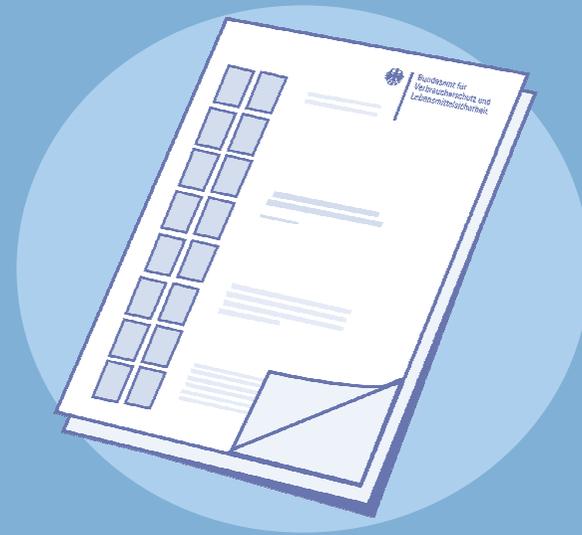
Management of data on the Internet
- Users can submit applications for amendments
- Applications for amendments can be commented upon
- Applications for amendments can be discussed

Tasks of BVL
- Further processing of agreed changes
- Approval of catalogue version
- Publication of catalogues
- Documentation of decisions, including the entire history of the catalogues

Tasks of German State / Länder Committee

- Assess applications for amendments
- Decisions on applications for amendments

Routine management

– **Generally semi-annually – exceptions possible**

– **Preparation is in electronic form, decisions taken in meetings**

Ad-hoc management

– **Only if there is a justified reason**

– **Only the content of the catalogues and directory of notification formats**

– **Preparation and decision in a period from 24 hours to one week (only in electronic form)**

– **Where applicable, data entry masks on the BVL portal as an intermediate solution for data suppliers who cannot change over within 24 hours to one week.**

E

Challenges

Characteris-tics of the classification system		Austria	Belgium	Czech Republic	Finland	France
	hierarchical	X	X		searching for adequate system	
	facet-based		X			
	both		X			X
	others			heterogenic		
	harmonised			no		

Characteris-tics of the classification system		Latvia	Netherlands	Portugal	Switzer-land
	hierarchical	X	X	X	X
	facet-based	X		X	
	both	X		X	
	others			In-house	
	harmonised	X			

- **Systems usable for national purposes**

- **Systems not compatible between each other**

- **Test shall show whether data in national classifications can be transferred to the proposed new classification**

Lots of work, challenges and problems

Bundesamt für
Verbraucherschutz und
Lebensmittelsicherheit

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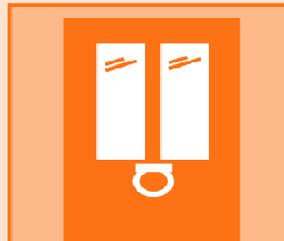Dr. Thomas Firley**
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