



The German Nutrient Database: Basis for Calculation of the Nutritional Status of the German Population

Ana Lucía Vásquez-Caicedo
ana.vasquez@bfel.de

Federal Research Centre for Nutrition and Food (BfEL)
Location Karlsruhe, Germany
September 20th 2006

German Nutrient Database (BLS)

Awarding authority: Federal Ministry of Food, Agriculture and Consumer Protection (BMELV)

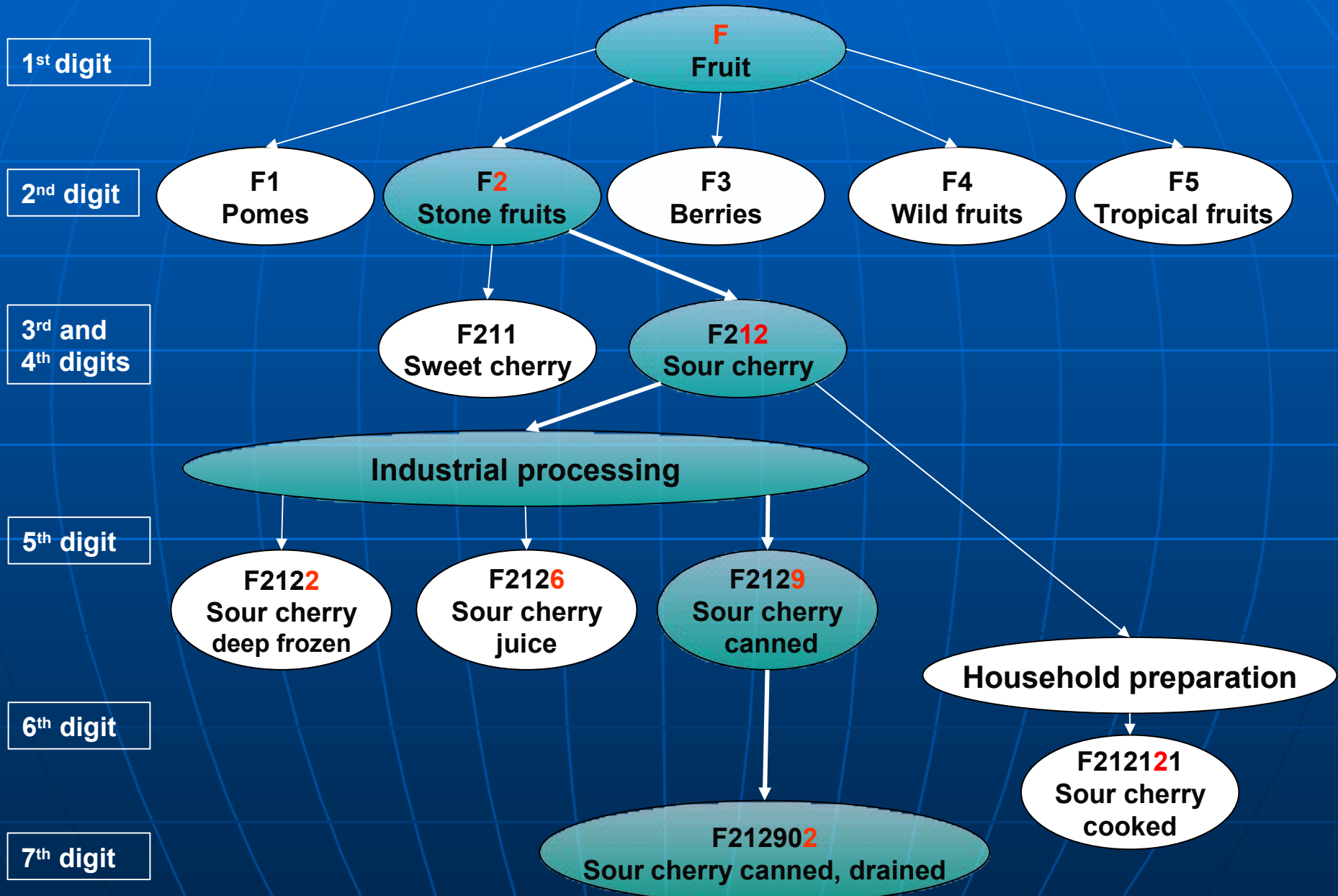
Executing organization: Federal Research Centre for Nutrition and Food (BfEL), location Karlsruhe

Team: Bernd Hartmann
Ana Lucía Vásquez-Caicedo
Simone Bell

What is the BLS?

- BLS (German: Bundeslebensmittelsuschlüssel)
- Standard instrument developed for nutritional surveys in Germany
- Average nutritional values (133 constituents)
- Approx. 10,000 foods available on the German market
- Fresh foods, food preparations and recipes

BLS Structure & Coding System



BLS Generation



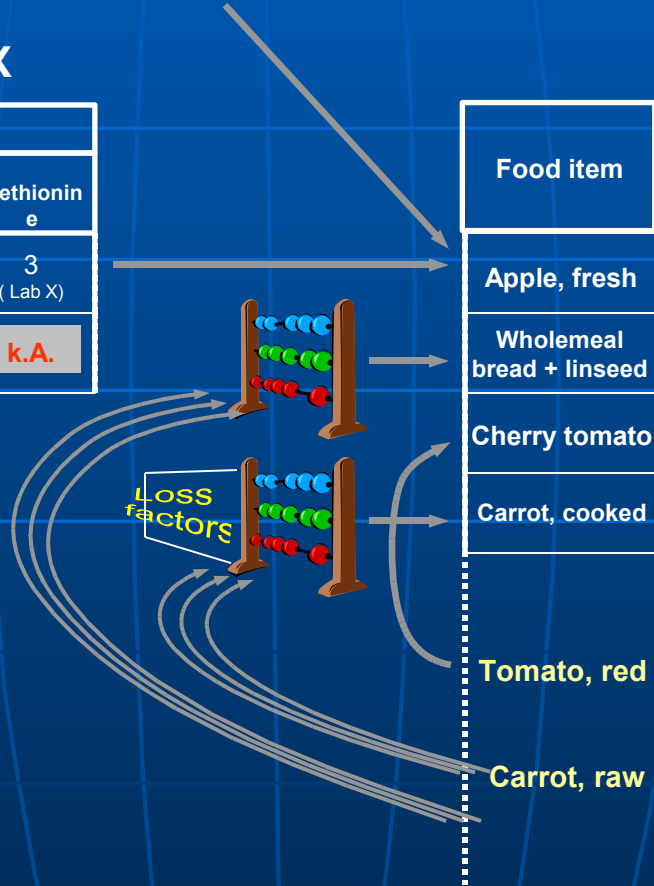
Food Composition Table Y

Food Composition Table X

Food Item	Components in mg/100g			
	Protein	Vitamin C	Magnesium	Methionine
Apple, fresh	326 (Lab X)	11.70 (Lab Y)	5 (Lab Z)	3 (Lab X)
Wholemeal bread + linseed	6800 (Lab X)	0.089 (Lab Z)	53 (Lab X)	k.A.
Cherry tomato	Data not available			
Carrot, cooked	Data not available			

BLS

Food item	Components in mg/100g			
	Protein	Vitamin C	Magnesium	Methionine
Apple, fresh	326	11.7	5	3
Wholemeal bread + linseed	6751	0.091	58	99
Cherry tomato	950	24.5	13	6
Carrot, cooked	952	4.5	12	10



Tomato, red

Carrot, raw

- Mixed calculation
- Derivated values
- Yield and nutrient retention calculation

The German National Nutrition Survey (NVS II)

General objective

representative data on food consumption, nutrition behaviour, energy and nutrient intake of the German population

Structural objective

linking to other surveys

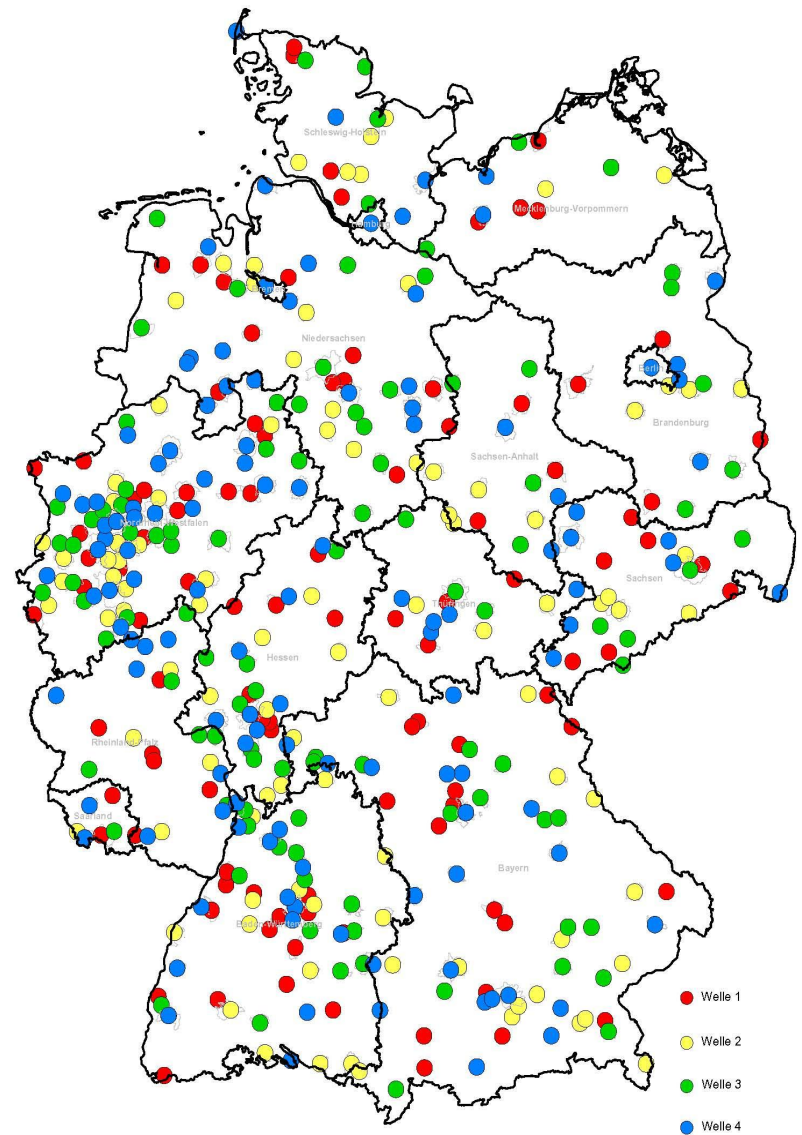
Methodological objectives

improve existing methods, develop innovative methods

Conceptual objectives

implement nutrition monitoring, German Nutrient Database

- 500 Sample Points
 - 4 waves (each 3 months)
 - 20,000 participants 14-80 years
 - Field phase: 13 months
- from Nov. 3rd 2005 to Nov. 30th 2006



Source: TNS Healthcare. Munich

Methods overview

2. Computer assisted personal interview and questionnaire
3. Anthropometric measurements
4. Dietary history interviews (DISHES 05)
5. 24-hour recalls (EPIC-SOFT)
6. Dietary weighing records

NVS II BLS

- BLS food composition database for the National Nutrition Survey II (NVS II)
- NVS II provides BLS with representative view on German eating habits
- Improvement of BLS at run-time of NVS II (food choice, portion size and recipes)



Dietary history interviews (DISHES 05)

- Software to collect information on habitual food intake of the past 4 weeks

Dishes Quest - Interview - Brot und Brötchen

Name: James Bond Mahlzeit: Frühstück täglich Ort: täglich

Geben Sie bitte an, wie häufig und wie viel dieser Brotsorten Sie zu dieser Mahlzeit essen.

pro Monat pro Woche

nie 1 2 3 4 täglich 1 2 3 4 5 6

Brotsorte	pro Monat	pro Woche	Quantität	Einheit
Graubrot/Mischbrot	4	1	1,00	B3 Bild_3
Vollkornbrot	1	1	1,00	ST Stück
Vollkornbrötchen	0	0	0,00	
Weißbrot	0	0	0,00	
Weißbrötchen	0	0	0,00	
Knäckebrot	0	0	0,00	
Croissant	1	1	1,00	ST Stück
Toastbrot	0	0	0,00	
andere				

wählen

Zurück Abbruch Unterbrechen Übersicht Gehe zu Weiter

1/Woche

- BLS is integrated in the programme
- Provides information about the most often consumed foods and beverages

24-hour recalls (EPIC-SOFT)

- Detailed description of food intake in facets



- Must be linked with BLS after data collection
- Qualitative information for the update of the BLS database, new food items

Dietary weighing records

- Twice 4 days: all eaten foods are weighed

Beispielprotokoll NVS II

Wochentag:
 Mo Mi Do Fr Sa So
 (bitte ankreuzen)

Datum:
 20.12.2005

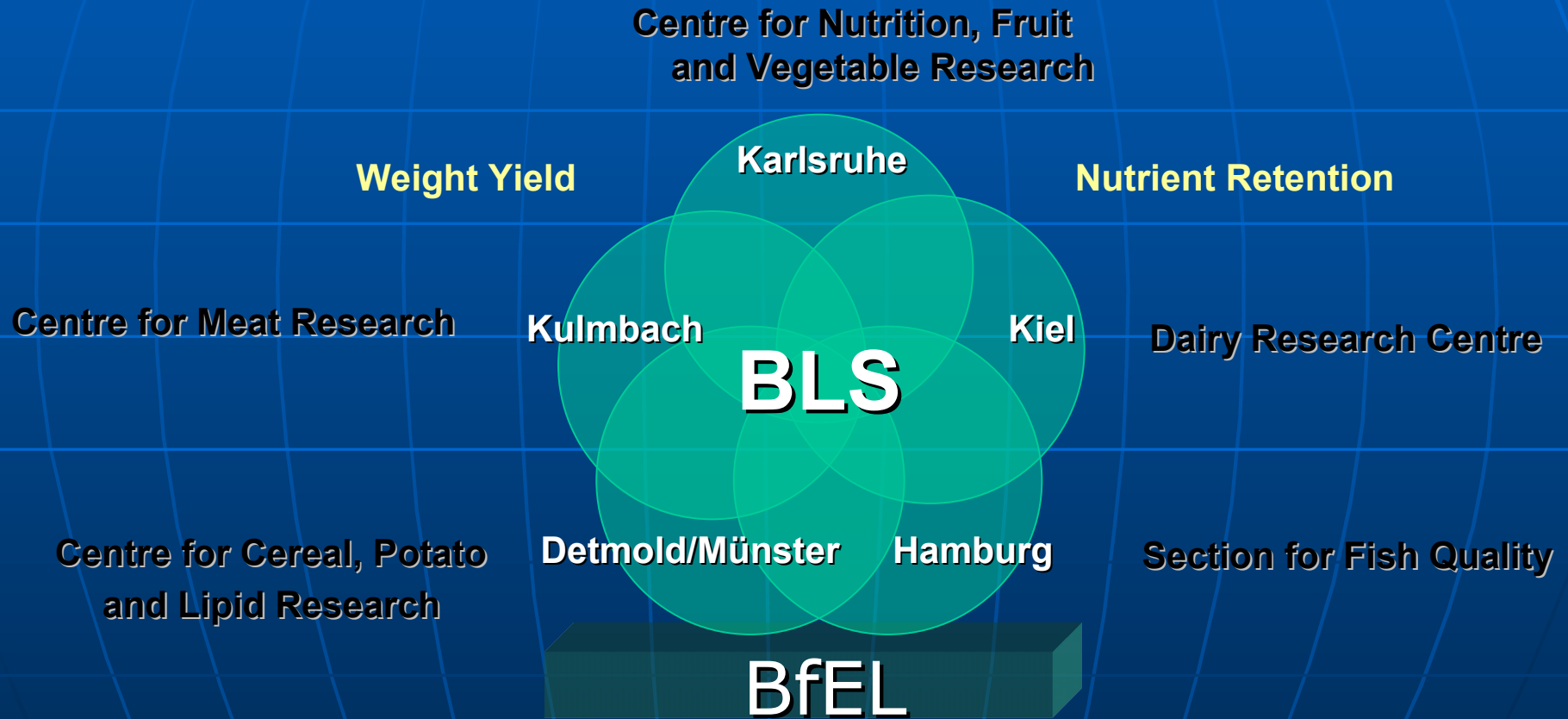
Uhrzeit	Ort	Lebensmittel und Getränke (Produktbezeichnung, Markenname (ggf. Discounter z. B. Aldi), Fettgehalt, Vitaminzusätze etc.)	Verpackung bei Einkauf	Zustand bei Einkauf*	Zubereitungs- verfahren	kg, g, mg bzw. L, mL	
						Verzehr- fertige Menge	Rest- menge/ Abfall**
7:30	zu Hause	Weizen-Roggen-Mischbrot mit Sonnenblumenkernen	lose	frisch	---	112 g	
		Halbfettbutter „Du darfst“	P + M	gekühlt	---	42 g	
		Erdbeermarmelade, selbst gemacht	---	---	---	65 g	
		Kaffee (Filterkaffee), „Jacobs“	M	getrocknet	---	254 g	
		H-Milch, 3,5 % Fett, „Milbona“	T	ultra- hoch- erhitzt	---	84 g	
10:15	im Büro	Apfel, Jona gold	U	frisch	---	220 g	23 g A

- Must be linked with BLS after data collection
- Provides currently used portion sizes and recipes

BLS development

- Compilation of coherent nutrient data according to our quality system
- Data transparency through documentation
- Development of flexible data structures (coding)
- Application of state of the art software solutions
- Cooperation with nutrient data networks

BLS within the Federal Research Centre for Nutrition and Food (BfEL)



BLS Online Computing & Cooperation Platform

BLS Berechnungsprogramm v1.0

BLS :: www.data.at :: B

Dokumentation zum Nährstoff bearbeiten

Daten | Sampling Information | Compositional Information | Quality Assessment | Kommentar für DB-Manager | Audit-T

SBLS: F110111
 ST: Apfel frisch
 Nährstoff: VK
 Wert: 5.6
 Seite: 395

Quelle: Bolton-Smith C u. A. / Compilation of a provisional UK database for the phyloquinone (vitamin K1) cont/2000 [585]

BLS-Version: II.4 NEW
 bestehende BLS-Versionen entfernen:
 Obst_ID135

Kommentar:

Lebensmittel:

Dokumentation zum Nährstoff bearbeiten

Daten | Sampling Information | Compositional Information

Methode/Apparatur: HPLC-UV

Kommentar:

Average level: 5.6
 Minimum level: 4.4
 Maximum level: 6.7
 Standard deviation: not available
 Standard error: not available
 No of replicates: 2

Dokumentation zum Nährstoff bearbeiten

Daten | Sampling Information | Compositional Information

Sample year: 2000
 Sample size: not know
 Sub-sample size: 1
 No of samples: 2

Home
 Abmelden
 Administration
 Import
 Benutzerverwaltung
 Stammdaten
 Kataloge
 Quellen
 Nährstoffe
 Nährstoffgruppen
 BLS-Version
 Languag
 BLS-Basisdaten
 Dokumentation
 Schlüsseldatei
 Grundwertedatei
 Grundwertedatei 0
 Wassererhaltdatei 5
 Wassererhaltdatei 6
 Wassererhaltdatei 7
 Nährstoffänderung 5
 Nährstoffänderung 6
 Nährstoffänderung 7
 BLSSAK
 BLSREZX
 BLSMISX
 Formeln
 BLS-Daten
 Suchen
 Validierung
 Versionen
 Änderungen
 BLS berechnen

BLS online: www.bls.nvs2.de



Bundesministerium für
Ernährung, Landwirtschaft
und Verbraucherschutz



Sie befinden sich hier: [Home](#) / [BLS Data](#)

[Startseite](#) | [Übersicht](#) | [Kontakt](#) | [Impressum](#) | Schriftgröße: [+](#) [□](#) [-](#)

BLS Data

- [Main Groups](#)
- [Home](#)
- [Licence](#)
- [BLS Knowledge](#)
- [National Nutrition Survey II](#)
- [EuroFIR](#)
- [Links](#)
- [Contact the BLS Team](#)
- [Impressum Information](#)
- [The BLS Team](#)
- [Site map](#)

Bundeslebensmittelschlüssel

BLS Search

[previous page](#)

Coding values		
BLS-code	B401011	
text-German	Vollkornbrötchen	
text-English	Wholemeal rolls	
Composition		
energy (kilo calories) [kcal/100g]	223	formula
energy (kilo joule) [kJ/100g]	933	formula
water, calculated according to formula 12 [mg/100g]	37459	formula
protein [mg/100g]	8179	formula
fat [mg/100g]	1529	formula
carbohydrates, resorbable [mg/100g]	43391	formula
fibres [mg/100g]	6942	formula
mineral substances (crude ashes) [mg/100g]	2500	formula
organic acids [mg/100g]	0	
alcohol (ethyl alcohol) [mg/100g]	0	
Vitamins		
vitamin A- equivalent to retinol [µg/100g]	1	formula
vitamin A - retinol [µg/100g]	0	

[Log out](#)

Website Search

[search](#)

[advanced search](#)

BLS Data Search

[search](#)



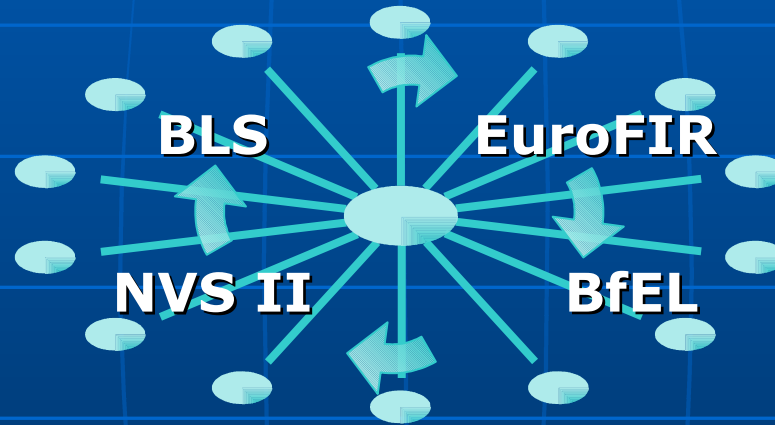
BLS Networking

Food Industry

State Department of Food Control & Analysis

Private Laboratories

National Research Institutes



The BLS is open for new cooperation partners

EuroFIR

- Integrate European expertise and resources in food composition database systems
- Harmonization
 - Food identification (LanguaL)
 - Standards development
 - Component coverage, definition & documentation
 - Nutrient retention factors
 - Recipe calculation, etc.
 - Quality system

Plans for the future

- BLS II.4: *2007*
 - BLS optimization for the German National Nutrition Survey
- BLS III: *2009*
 - Completely new revised BLS edition
 - Optimization of the BLS cooperation platform with other European database systems (EuroFIR) as well as other national and international networks

BLS & NVS II Teams



Special thanks to:

- The Federal Ministry of Food, Agriculture and Consumer Protection, for financing the BLS research activities (www.bmelv.de)
- EuroFIR, for financing our participation at the 30th US National Nutrient Databank Conference (www.eurofir.net)
- NVS II Team, specially to Christine Brombach, Project manager, and Carolin Krems, for their valuable input to this presentation (www.was-esse-ich.de,
nvs.karlsruhe@bfel.de)