

# **WP 6 – A TDS Information System**

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**Stakeholder Meeting**  
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# Outline

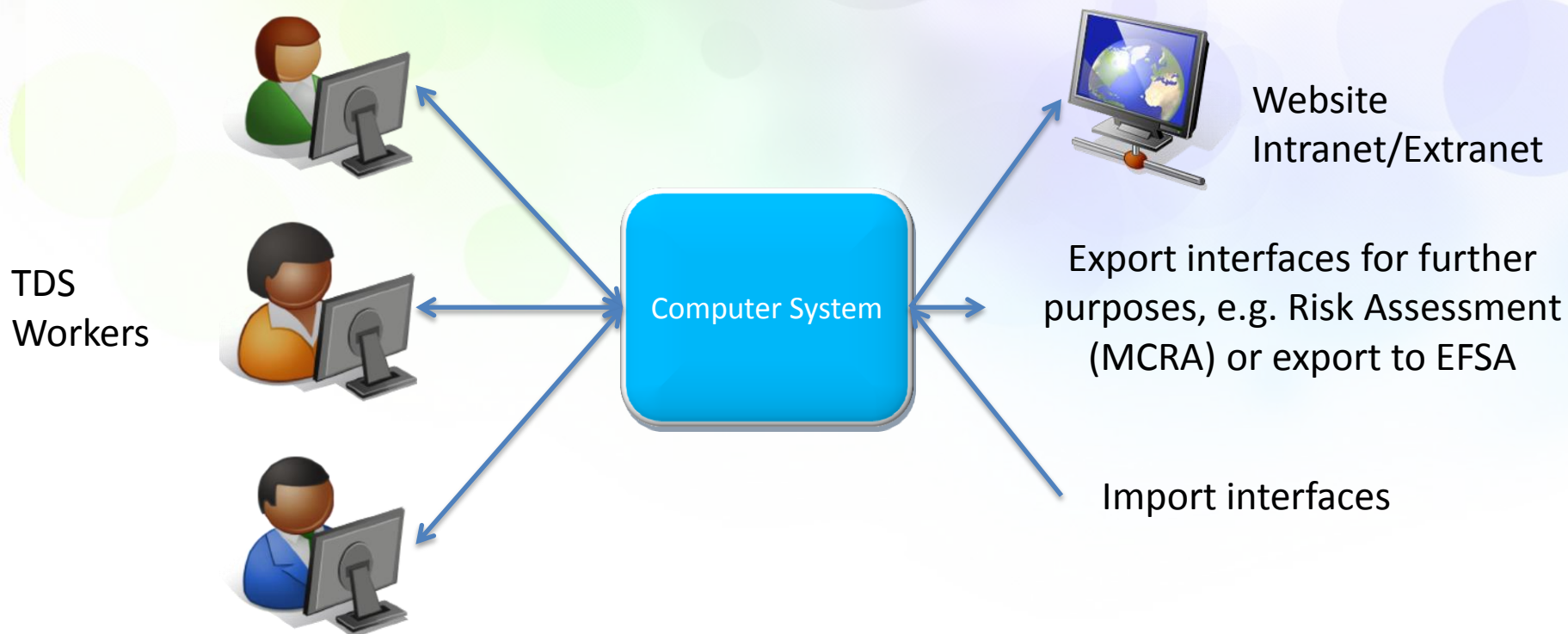
- Information about WP6
- What is a TDS information system
- Look&Feel of a TDS information system
- Why a TDS information system
- Linkage between TDS data, food composition data and consumption data

## GENERAL PRESENTATION OF WP6

- ▶ WP partners: ETHZ, EuroFIR AISBL, RIVM, INRAN, UGR, NUID UCD, UGENT, INSA and URV
- ▶ Main objectives:
  1. Collect requirements for a TDS information system
  2. Create TDS information system
  3. Proposal of data structure and detail for TDS data
  4. Create an automated quality framework for TDS data
- ▶ WP6 needs input from most WPs
- ▶ WP6 provides output to WP9

# What is a TDS information system

IT stuff to collect, filter, process, create and distribute data.





# What is a TDS information system



Collect food  
according to  
consumption info



Food A  
Food B  
Food C  
...

...



Prepare as consumed  
(cooking or other  
kitchen preparation)



Food A  
Food B  
Food C  
...

...

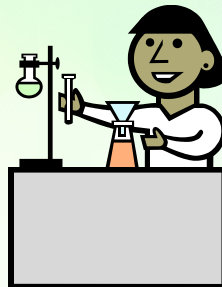
pool



Representative food X

...

# What is a TDS information system



Representative food X  
...

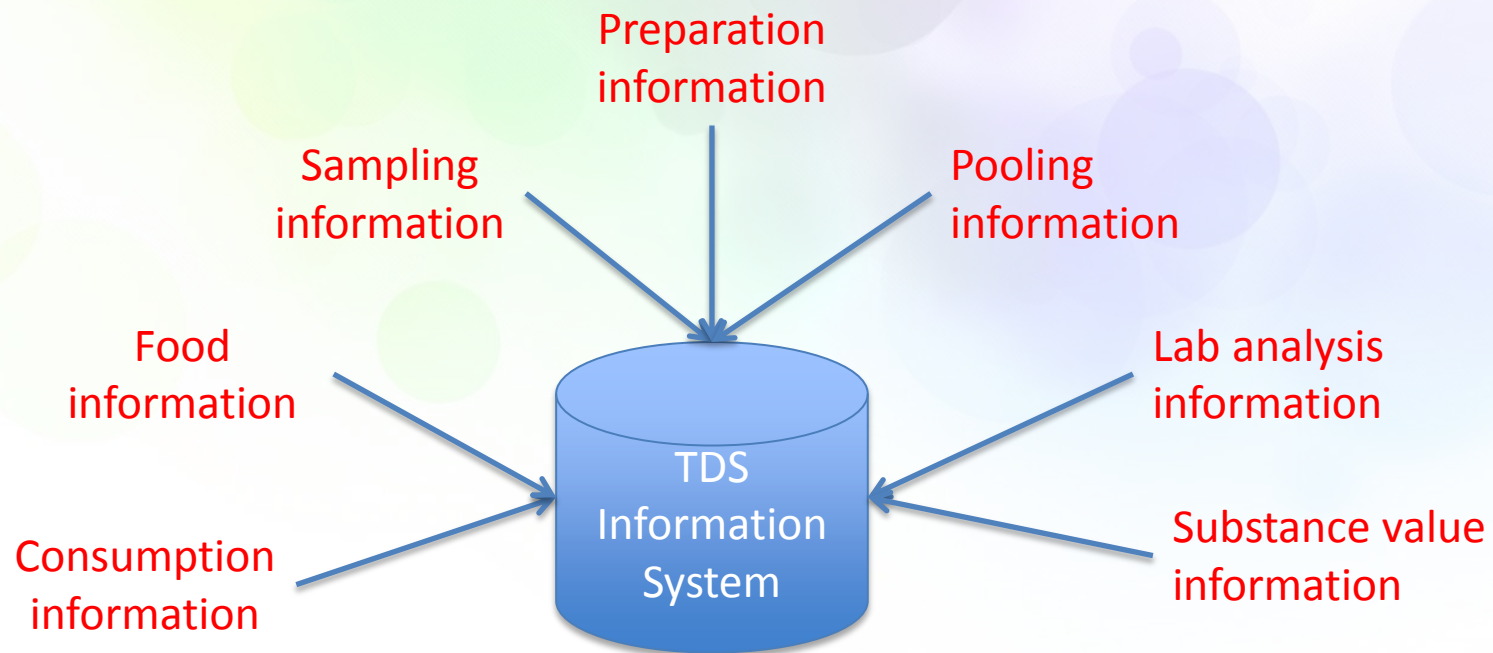
analyse

Nutrient values  
Contaminant values

Assess risk

Recommendation

# What is a TDS information system



## Amount of TDS Data

The following numbers were identified:

- ▶ 12 entities (= real world object such as food or value)
- ▶ 166 attributes for one compound value

Example:

200 food items with about 5 compounds -> at least 166'000 data points



# Approach and Results

- Collect requirement for TDS information system
  - Literature research
  - Discussion with project partners

Result: Software specification (52 pages) containing proposal of data structure and detail for TDS data

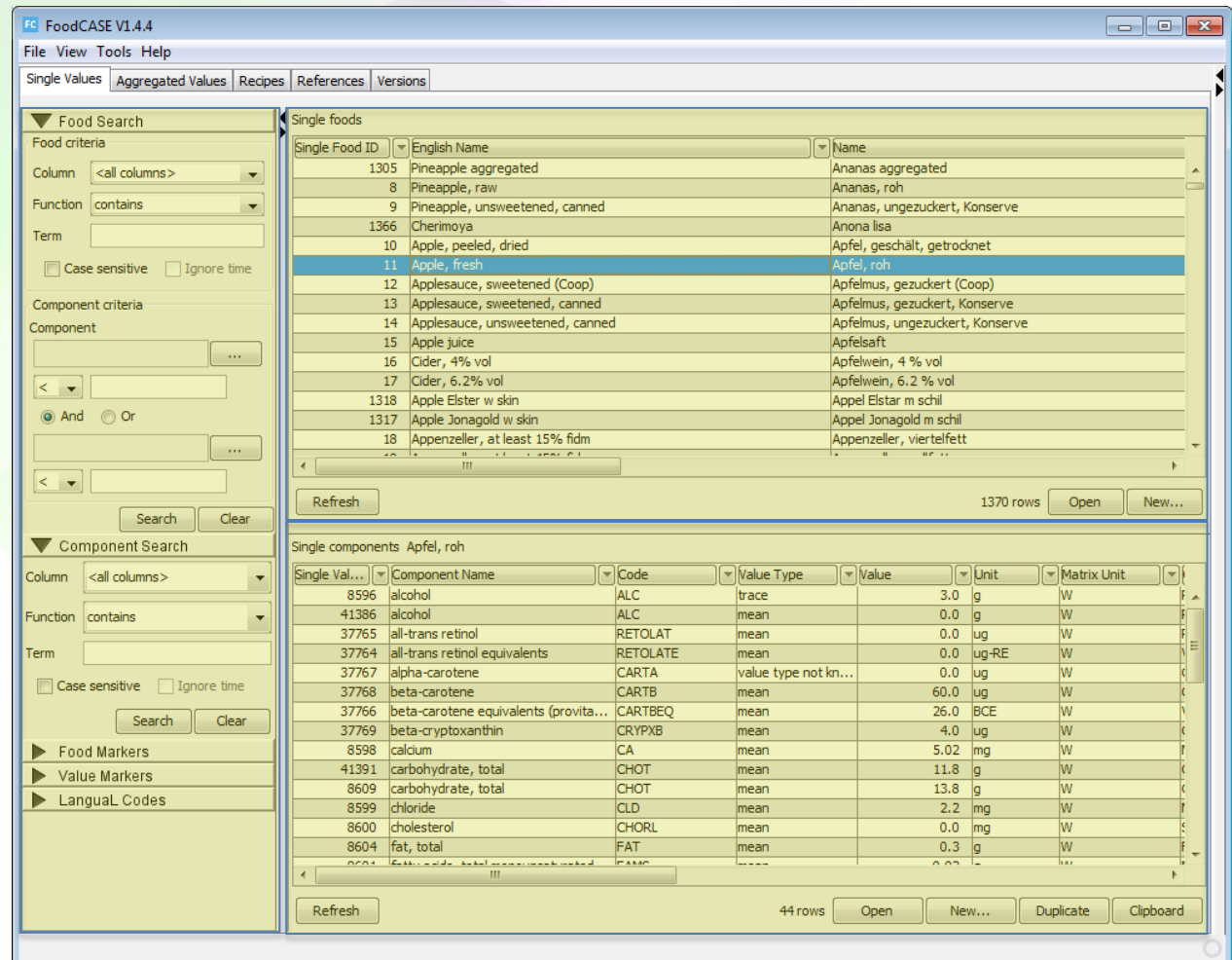
# Starting Mask - Overview

Search Area

Data Listing Area

Food items

Beneficial and harmful substances

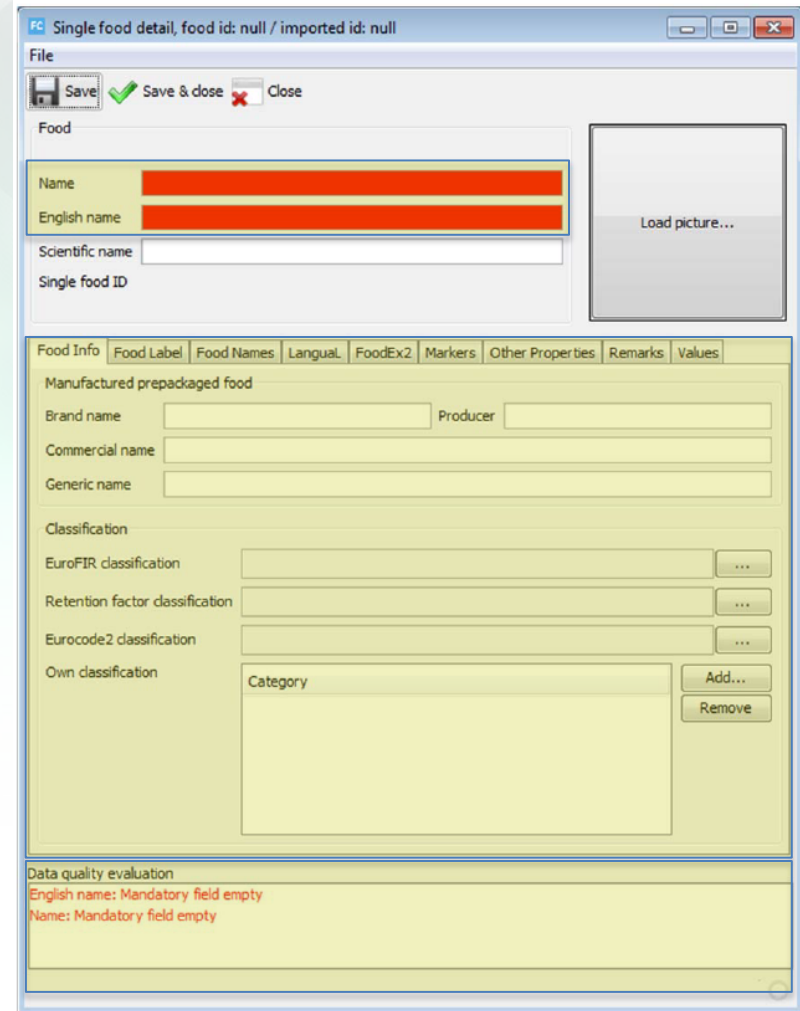


The screenshot displays the FoodCASE V1.4.4 application window. The interface is divided into several sections:

- Food Search:** Includes fields for Food criteria, Column (set to <all columns>), Function (set to contains), and Term. There are checkboxes for Case sensitive and Ignore time, and buttons for Search and Clear.
- Component Search:** Similar to the Food Search section, with fields for Component criteria, Column, Function, and Term, and buttons for Search and Clear.
- Food Markers:** A section with expandable options for Food Markers, Value Markers, and Language Codes.
- Single foods:** A table listing food items with columns for Single Food ID, English Name, and Name. The table shows 1370 rows.
- Single components:** A table listing components for a selected food (Apfel, roh) with columns for Single Val..., Component Name, Code, Value Type, Value, Unit, and Matrix Unit. The table shows 44 rows.

# Managing Food

- Mandatory fields
- Many other attributes for a single food
- Data quality panel

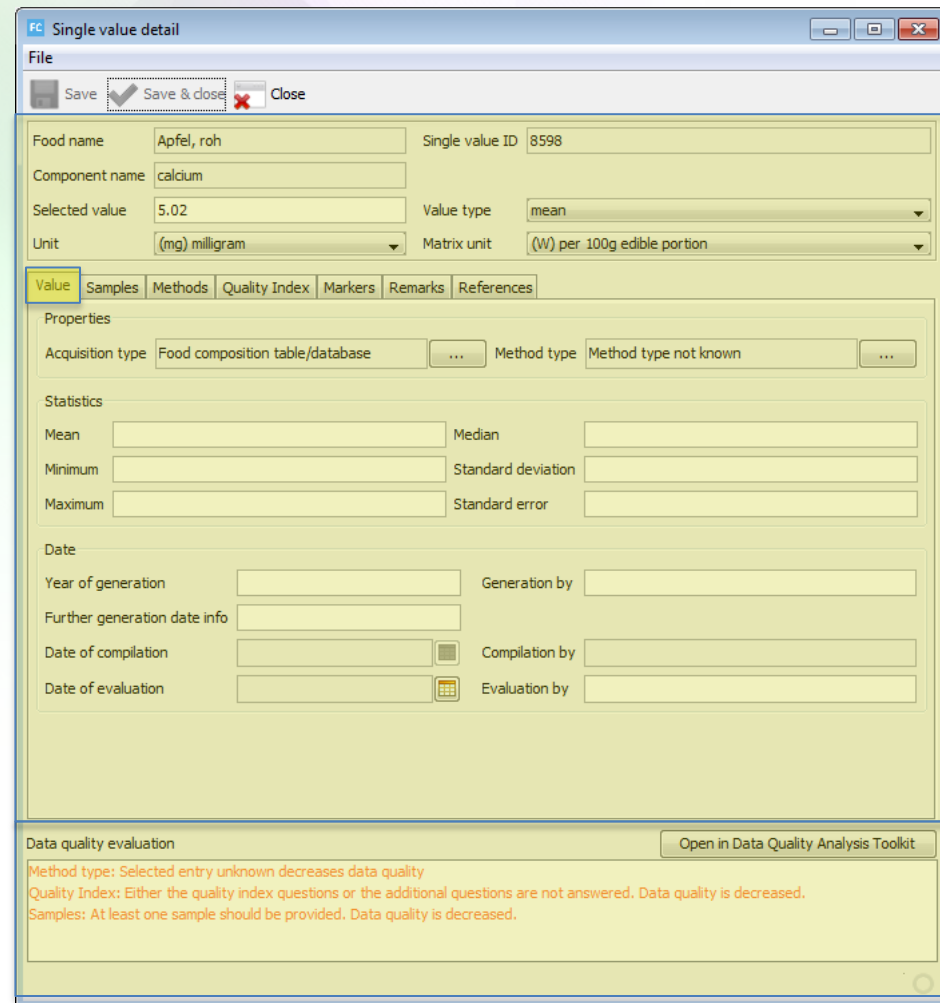


The screenshot shows the 'Single food detail' window in the FOODCASE application. The window title is 'FC Single food detail, food id: null / imported id: null'. It features a 'File' menu with 'Save', 'Save & close', and 'Close' options. The main form is divided into several sections:

- Food section:** Contains fields for 'Name' (highlighted in red), 'English name' (highlighted in red), 'Scientific name', and 'Single food ID'. To the right is a 'Load picture...' button.
- Food Info section:** Includes tabs for 'Food Label', 'Food Names', 'LanguaL', 'FoodEx2', 'Markers', 'Other Properties', 'Remarks', and 'Values'. Below the tabs are fields for 'Brand name', 'Producer', 'Commercial name', and 'Generic name'.
- Classification section:** Contains fields for 'EuroFIR classification', 'Retention factor classification', and 'Eurocode2 classification', each with a dropdown arrow. Below these is a section for 'Own classification' with a 'Category' list and 'Add...' and 'Remove' buttons.
- Data quality evaluation section:** Displays error messages: 'English name: Mandatory field empty' and 'Name: Mandatory field empty'.

# Managing Analysed Values

- Many available attributes
- Data quality panel



**Single value detail**

File

Save Save & close Close

Food name: Apfel, roh Single value ID: 8598

Component name: calcium

Selected value: 5.02 Value type: mean

Unit: (mg) milligram Matrix unit: (W) per 100g edible portion

Value Samples Methods Quality Index Markers Remarks References

**Properties**

Acquisition type: Food composition table/database Method type: Method type not known

**Statistics**

Mean: Median: Minimum: Standard deviation: Maximum: Standard error:

**Date**

Year of generation: Generation by: Further generation date info: Date of compilation: Compilation by: Date of evaluation: Evaluation by:

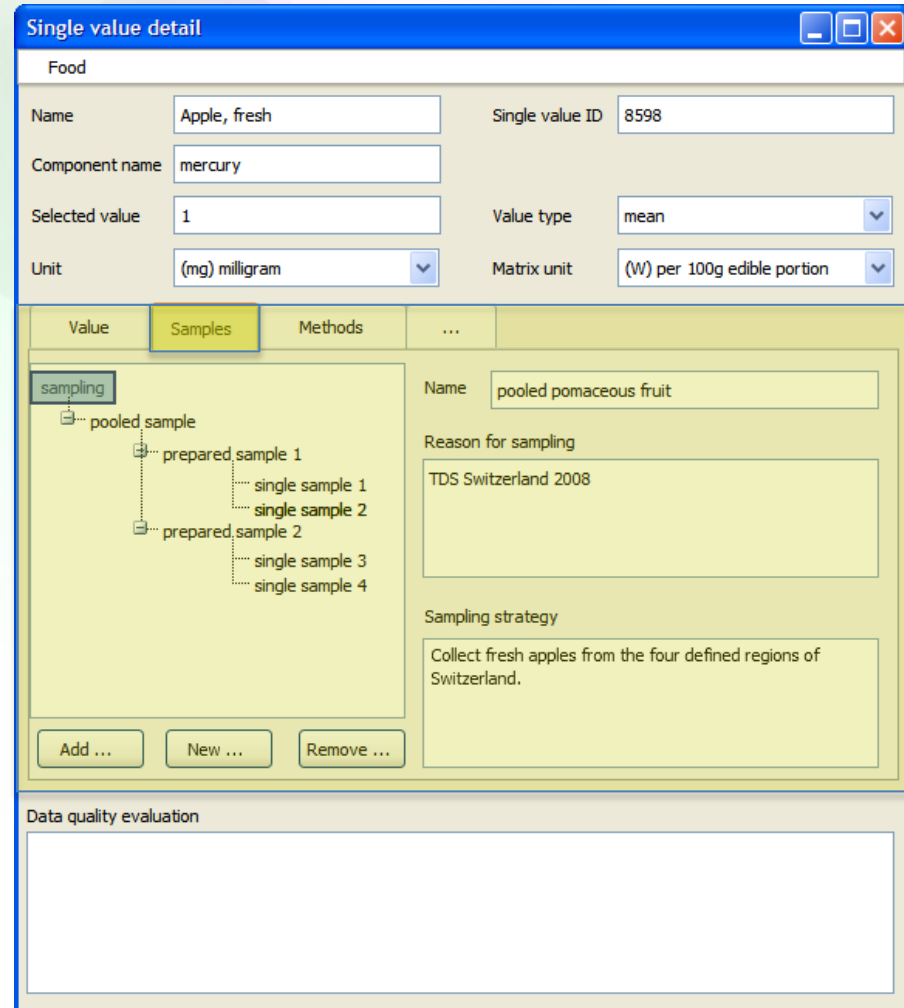
**Data quality evaluation** Open in Data Quality Analysis Toolkit

Method type: Selected entry unknown decreases data quality  
 Quality Index: Either the quality index questions or the additional questions are not answered. Data quality is decreased.  
 Samples: At least one sample should be provided. Data quality is decreased.



# Managing Samples

- Tree view
- Attributes depending on the tree node selection
- Pooled / Prepared / Single sample



Single value detail

Food

Name: Apple, fresh      Single value ID: 8598

Component name: mercury

Selected value: 1      Value type: mean

Unit: (mg) milligram      Matrix unit: (W) per 100g edible portion

Value    **Samples**    Methods    ...

sampling

- ... pooled sample
  - ... prepared sample 1
    - ... single sample 1
    - ... single sample 2
  - ... prepared sample 2
    - ... single sample 3
    - ... single sample 4

Name: pooled pomaceous fruit

Reason for sampling: TDS Switzerland 2008

Sampling strategy: Collect fresh apples from the four defined regions of Switzerland.

Add ...    New ...    Remove ...

Data quality evaluation

# Spreading Analysed Values



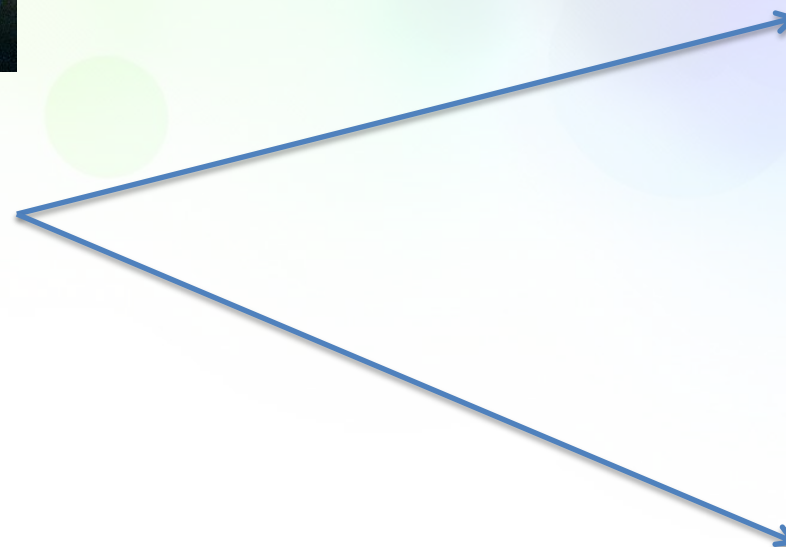
1 mg mercury  
per 100g



1 mg mercury  
per 100g



1 mg mercury  
per 100g



# Spreading Analysed TDS Data

- Choose the target matrix unit
- Possibly add additional values or remove values from the list
- Define target foods

Specify value spreading parameters

Spread **Target foods**

Target matrix unit (W) per 100g edible portion ...  
Note: Using "per 100g" is highly recommended

Replace existing values ☐

Contributing values

Component	Component code	Value	Unit	Matrix unit	Weight
mercury	Hg	1	mg	(W) per 100g edible portion 1	
selenium	Se	2	mg	(W) per 100g edible portion 1	

Add value ... Remove value

Data quality evaluation

Spread Cancel

## Why a TDS information system

- ▶ Store data at a central place
- ▶ Store data for long-term access
- ▶ Increase the visibility of your work
- ▶ Enable other to access your data
- ▶ Save time and resources in long run
- ▶ Documentation of your data ensures data integrity



# Why a TDS information system

- ▶ Facilitate new discoveries
- ▶ Enhance access security and minimise risk of data loss
- ▶ Meet grant requirements
- ▶ Be ready for open data (=publicly funded data must be publicly available)
- ▶ See data as a product for which funding were used
- ▶ Have automated support to maintain data quality

# Why a TDS information system

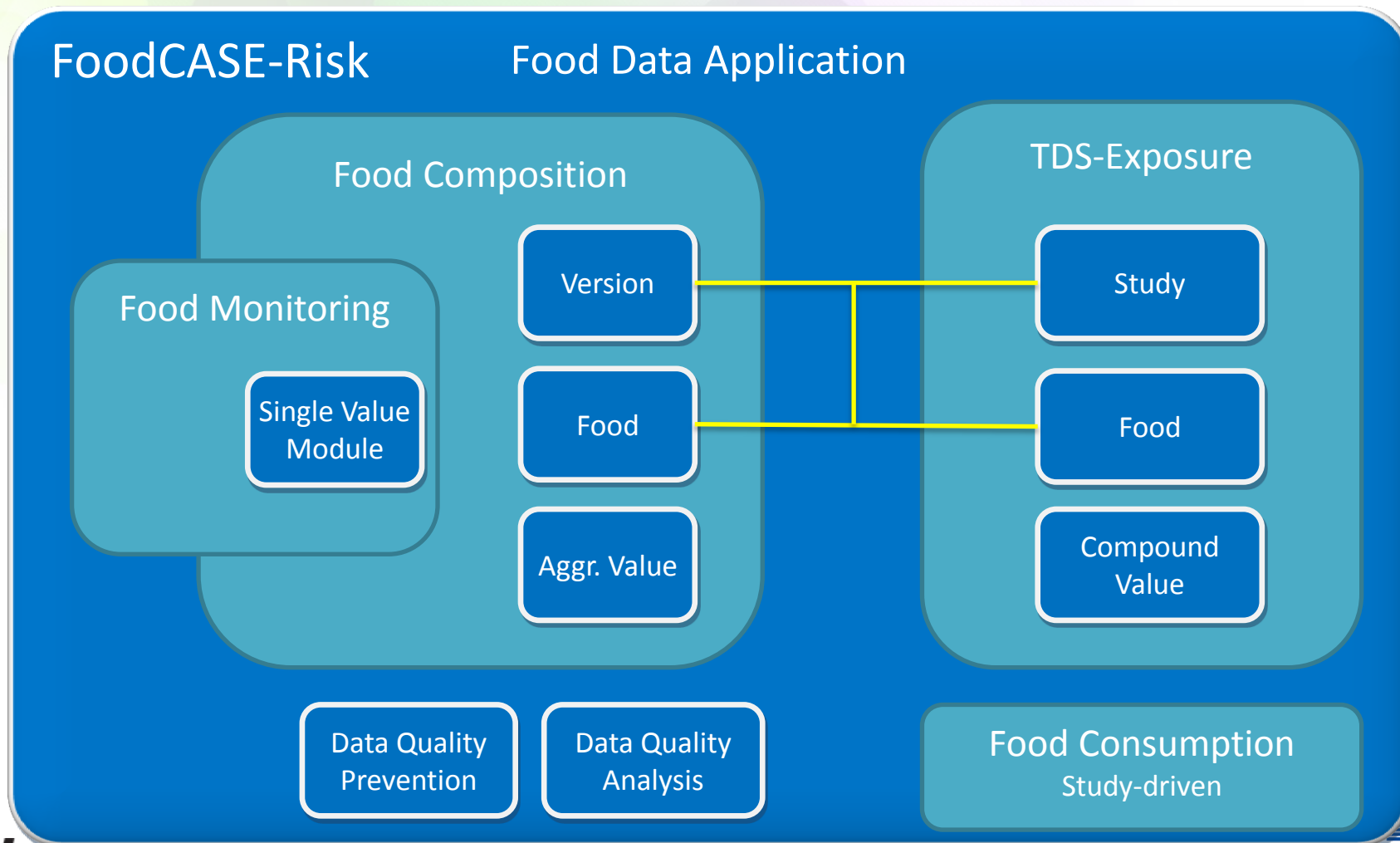


With a TDS information system



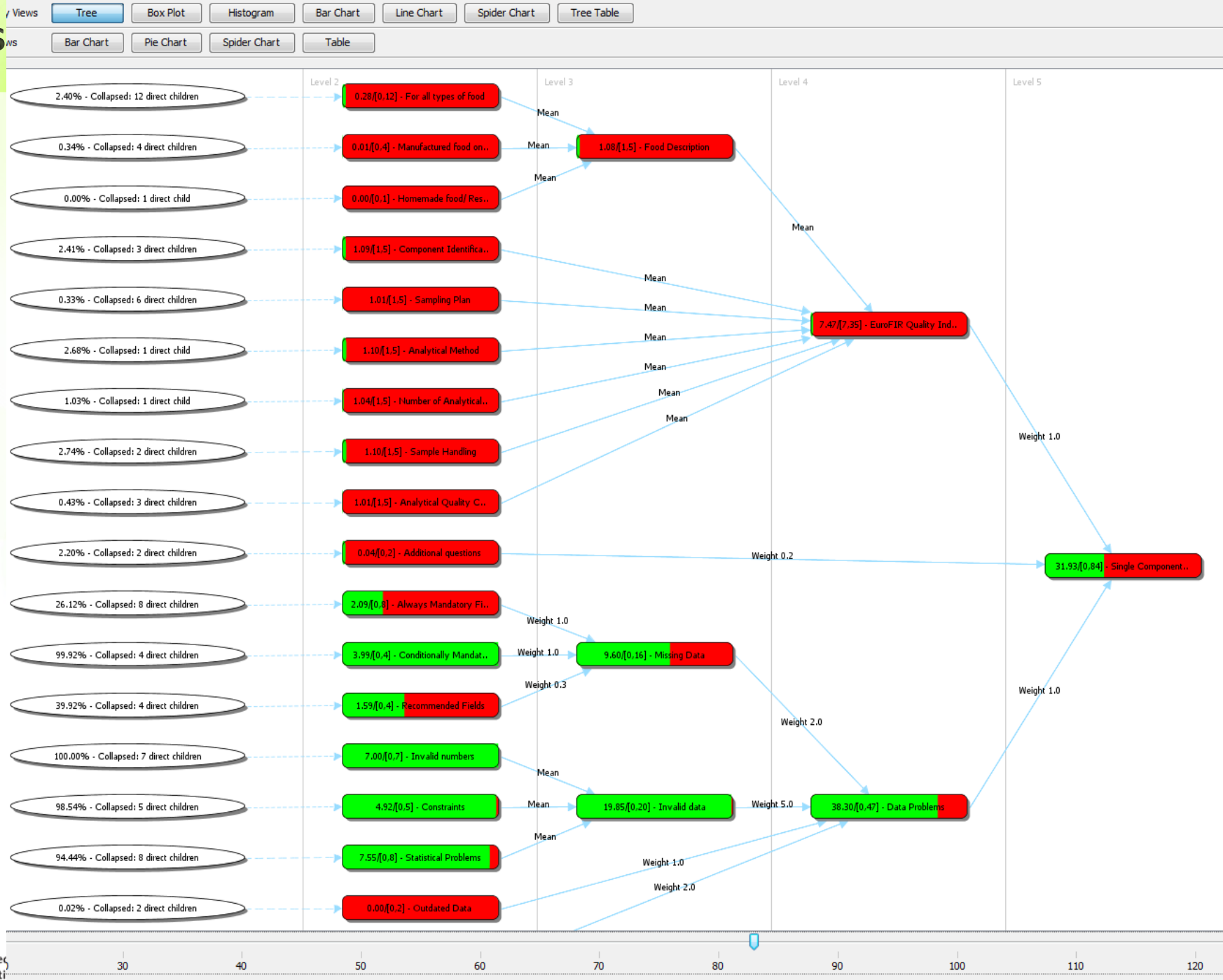
Without a TDS information system

# TDS Data in the Context of Food Data



**Thank you for your attention**





# TDS Data on a Time Scale



Assemble food list

Assemble shopping list plus additional information



Form pool groups



...

Enter substance values

Archive data

FoodCASE-Risk can provide food items, consumption data and former TDS data

Possibility to change to a preferred tool such as EXCEL or to use a mix

Use FoodCASE-Risk