PREMOTEC

FOODCASE

FoodCASE Training

Practical part 4: Additional Functionalities

FOODCASE

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Agenda

FOODCASE

- Export Data
- Import Data
- LanguaL
- Data Quality Analysis
- Data Issue Analysis
- Check and Approve Wizard
- Bulk Borrow
- Nutrient Estimation Wizard

Types of Export

FOODCASE

- Copy-Paste Export
- FDTP Export (Food Data Transport Package)
- EuroFIR EXCEL Export
- Custom Reports

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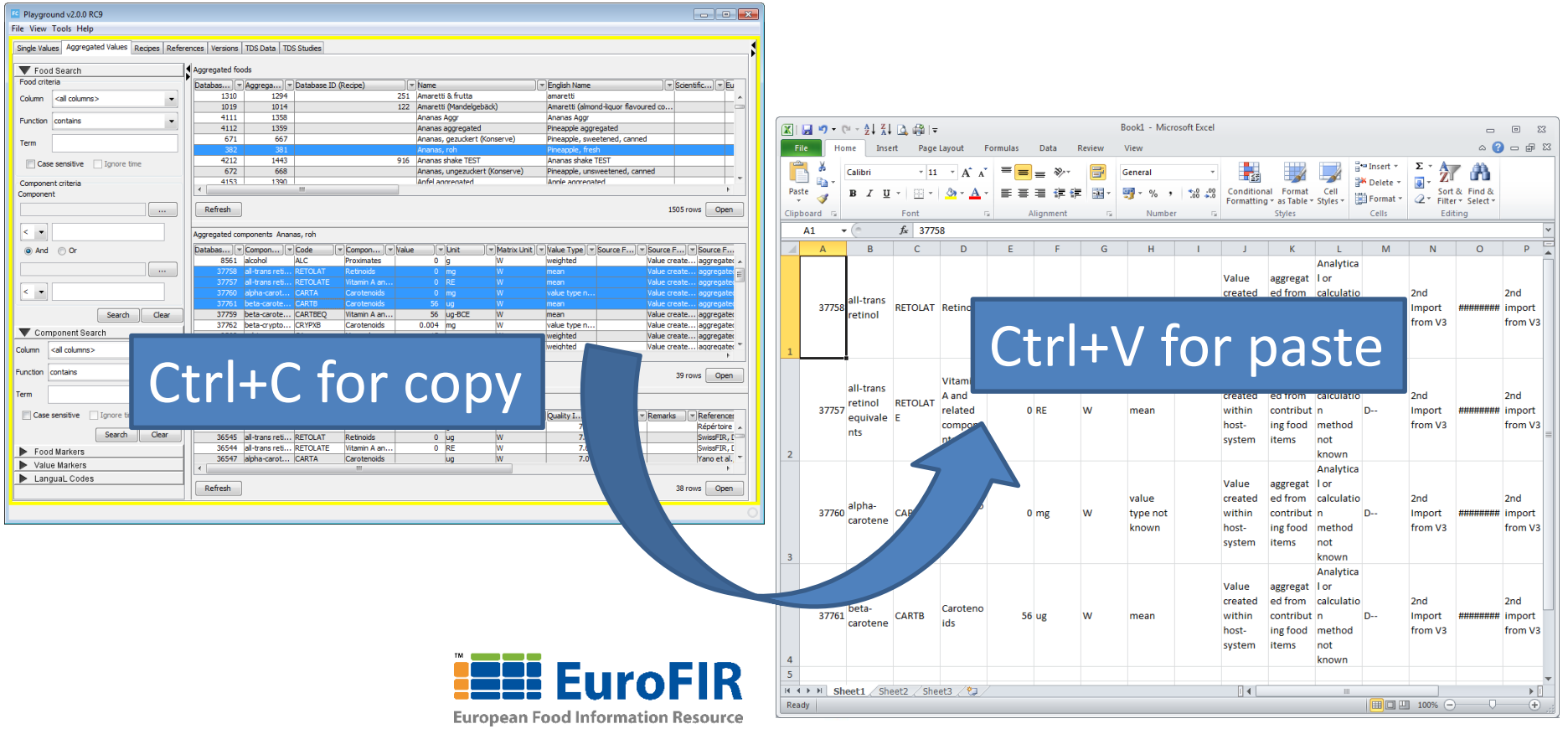
Copy-Paste Export

FOODCASE

Every selection in tables can be copy and paste into EXCEL.



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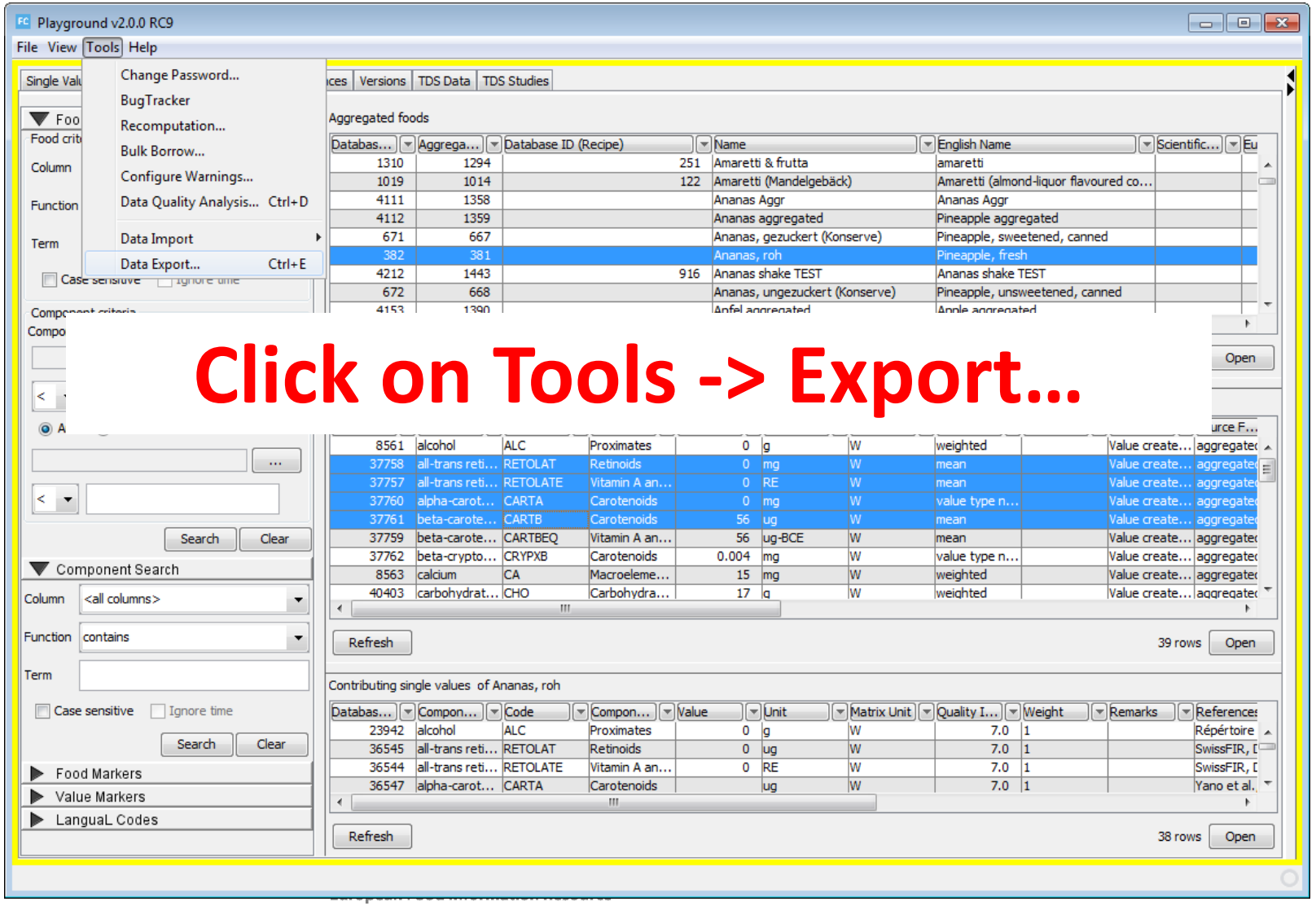
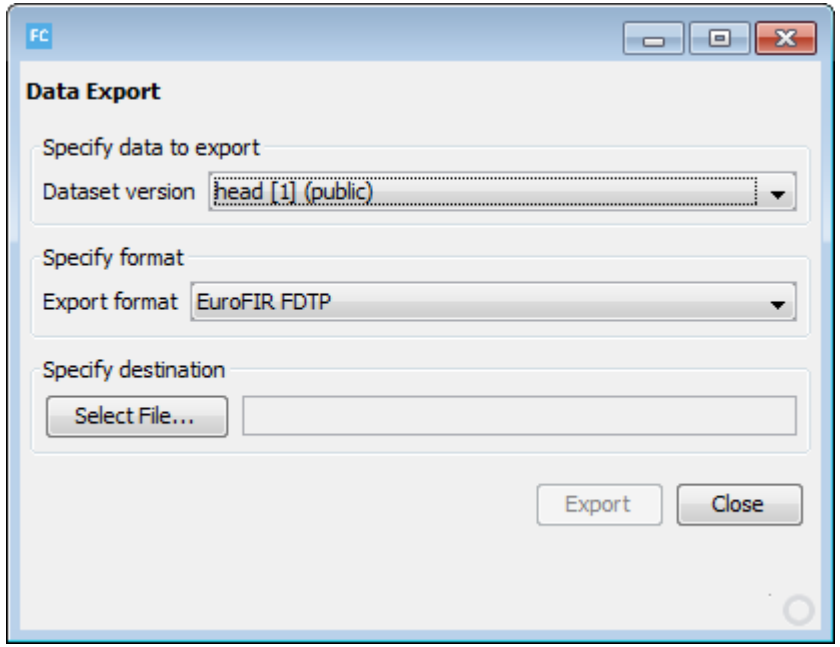
FDTP Export


Playground v2.0.0 RC9
File View Tools Help
Change Password...
BugTracker
Recomputation...
Bulk Borrow...
Configure Warnings...
Data Quality Analysis... Ctrl+D
Data Import
Data Export... Ctrl+E
Versions
TDS Data
TDS Studies
Aggregated foods
Click on Tools -> Export...
Open
Search
Clear
Component Search
Column
<all columns>
Function
contains
Term
Case sensitive
Ignore time
Food Markers
Value Markers
LanguaL Codes
Refresh
39 rows
Contributing single values of Ananas, roh
38 rows

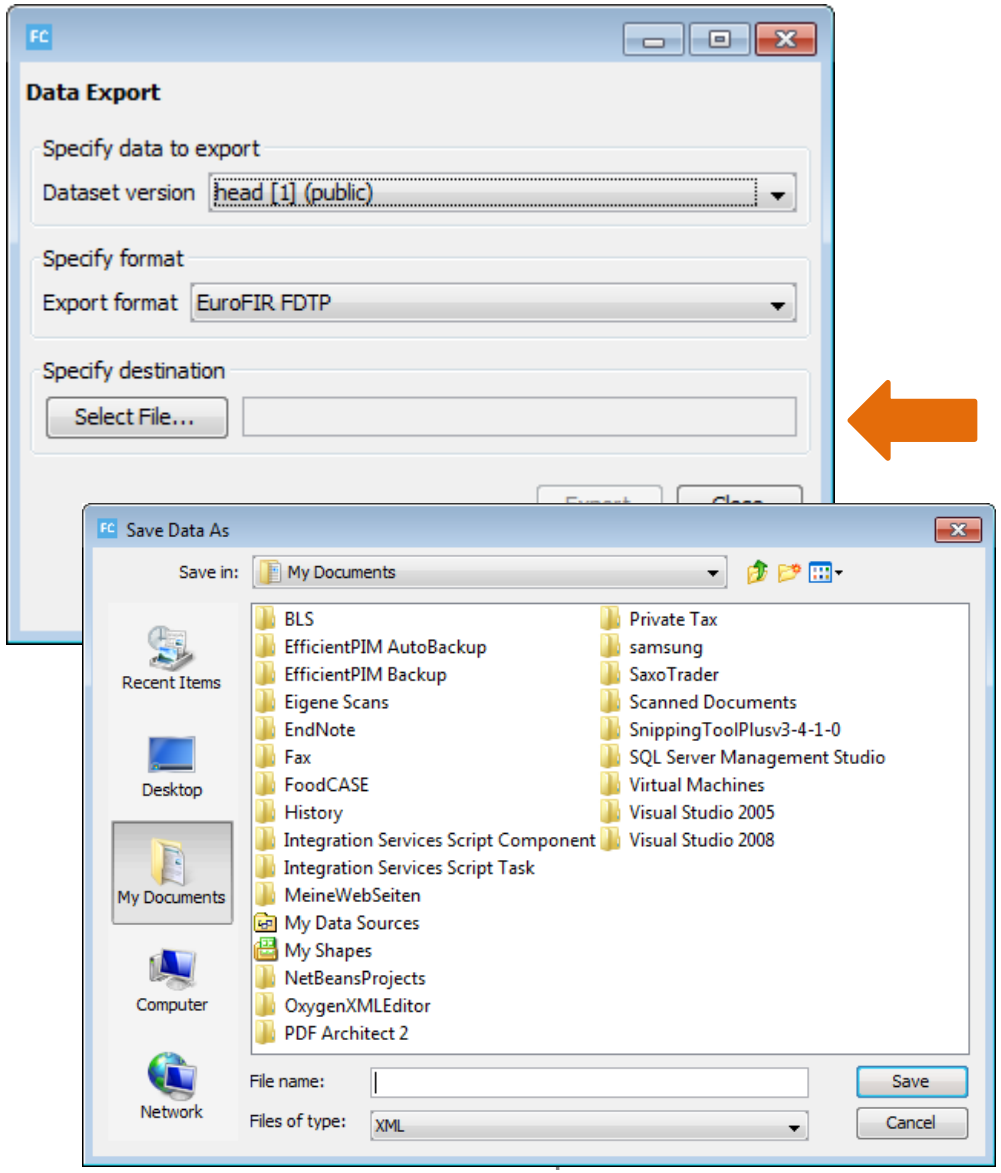
FDTP Export



Select the version that you want to export

Select format that you want to export

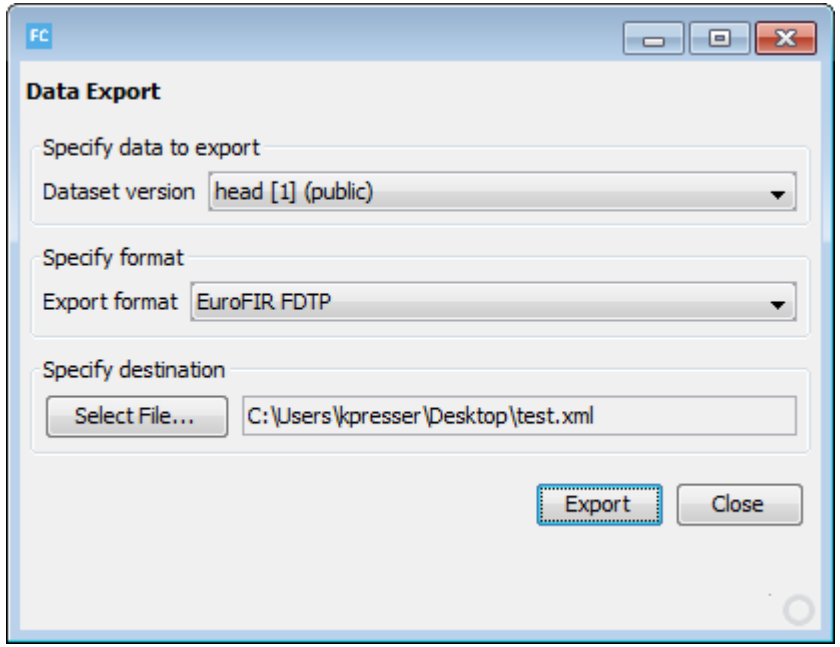
FDTP Export



Select file to export

Provide file name including extension

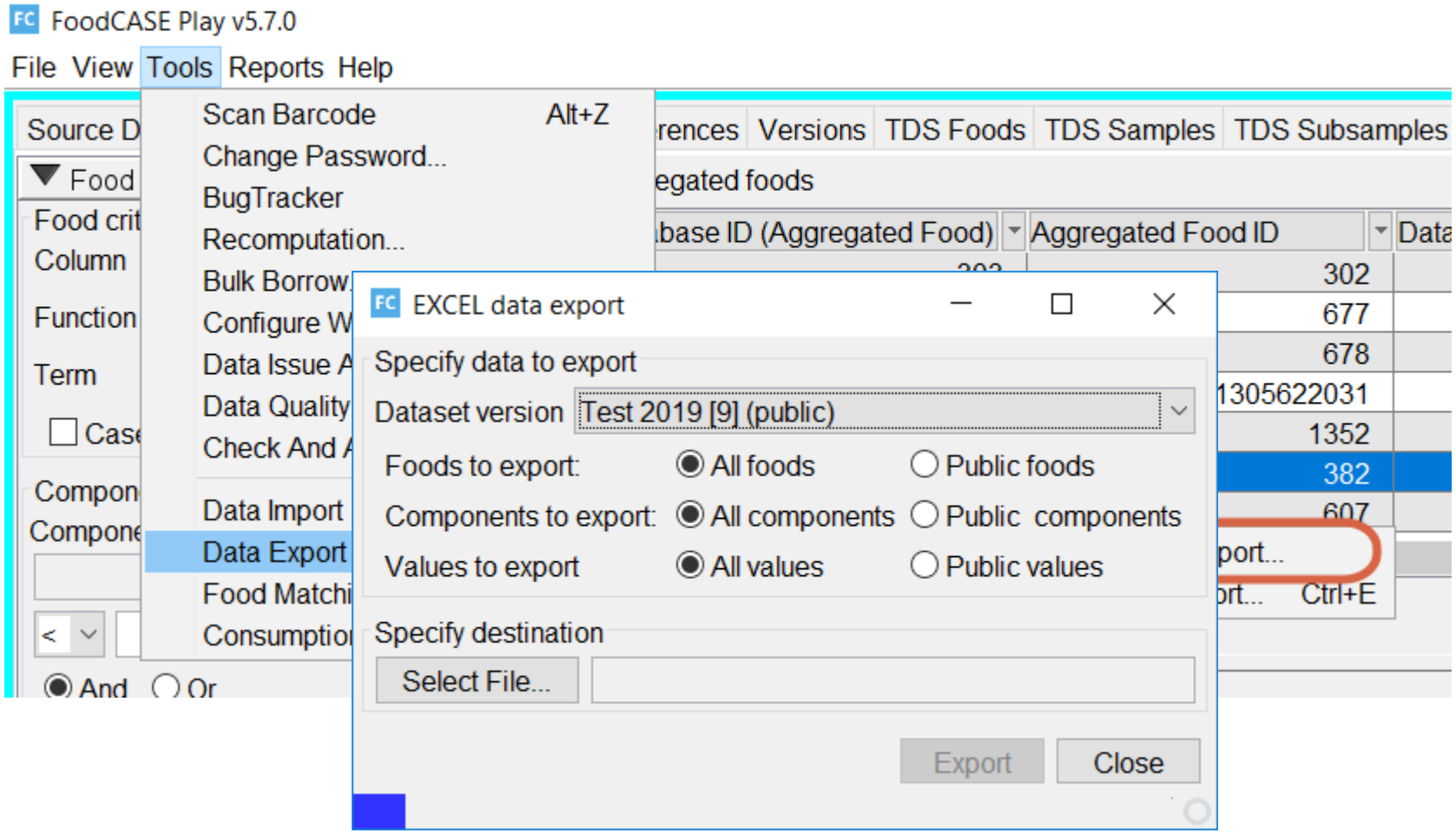
FDTP Export



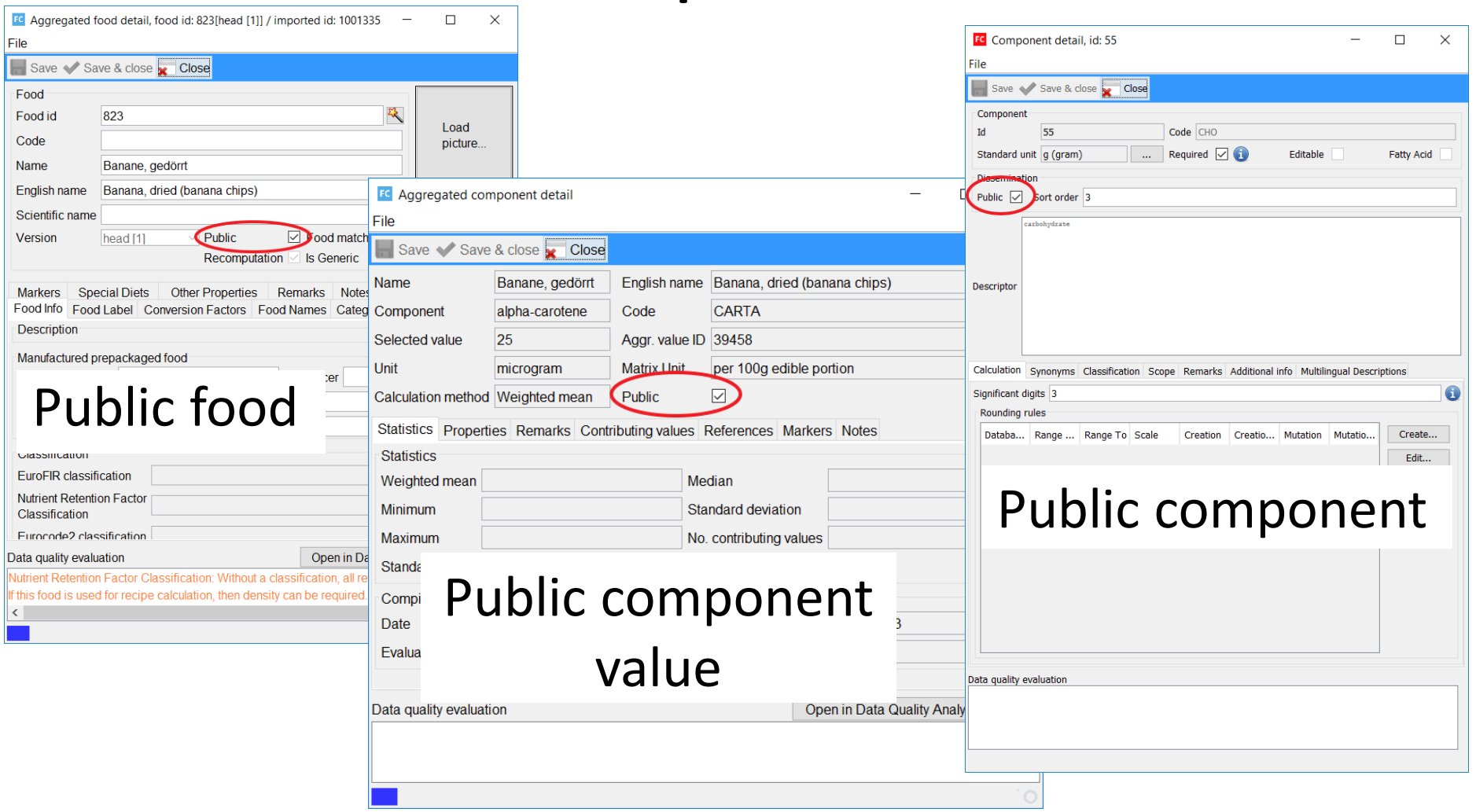
Click on Export

Please note that a complete data version is downloaded and converted to XML. That takes some time.

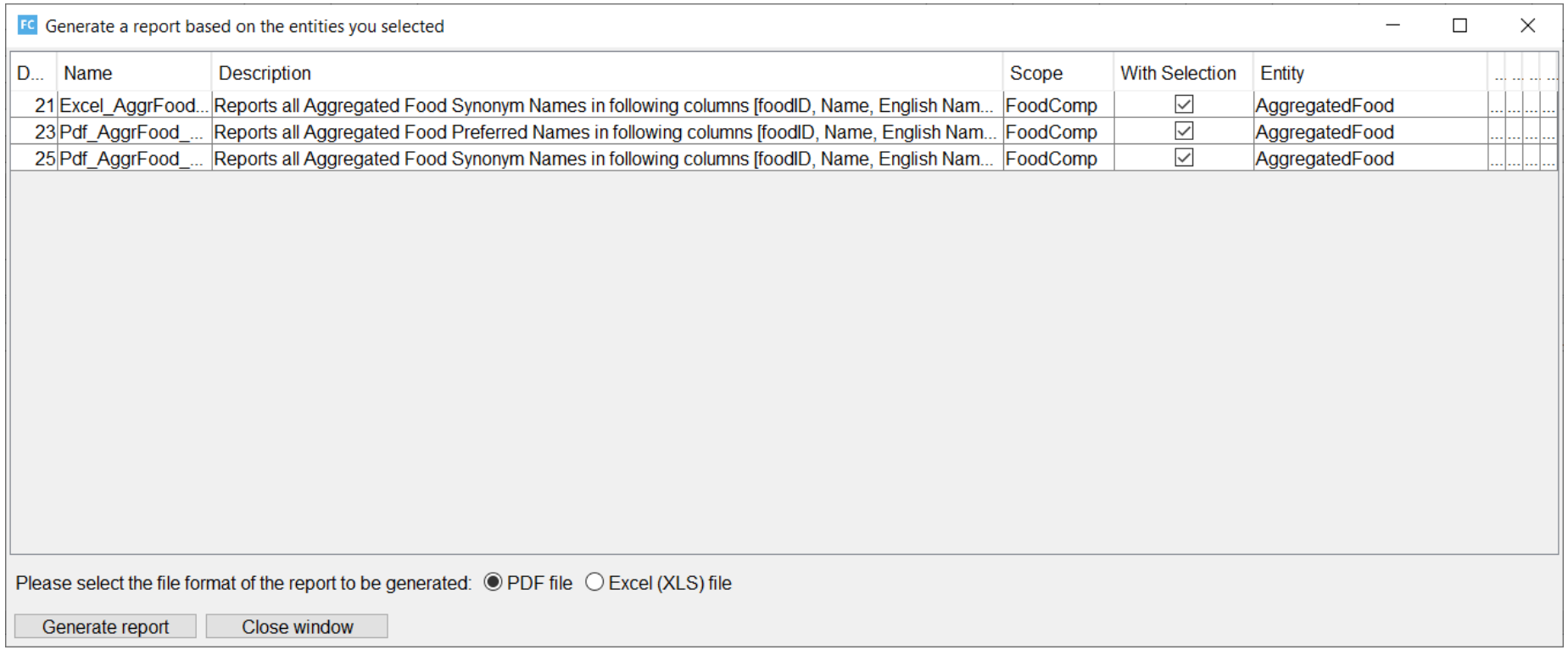
Excel Export



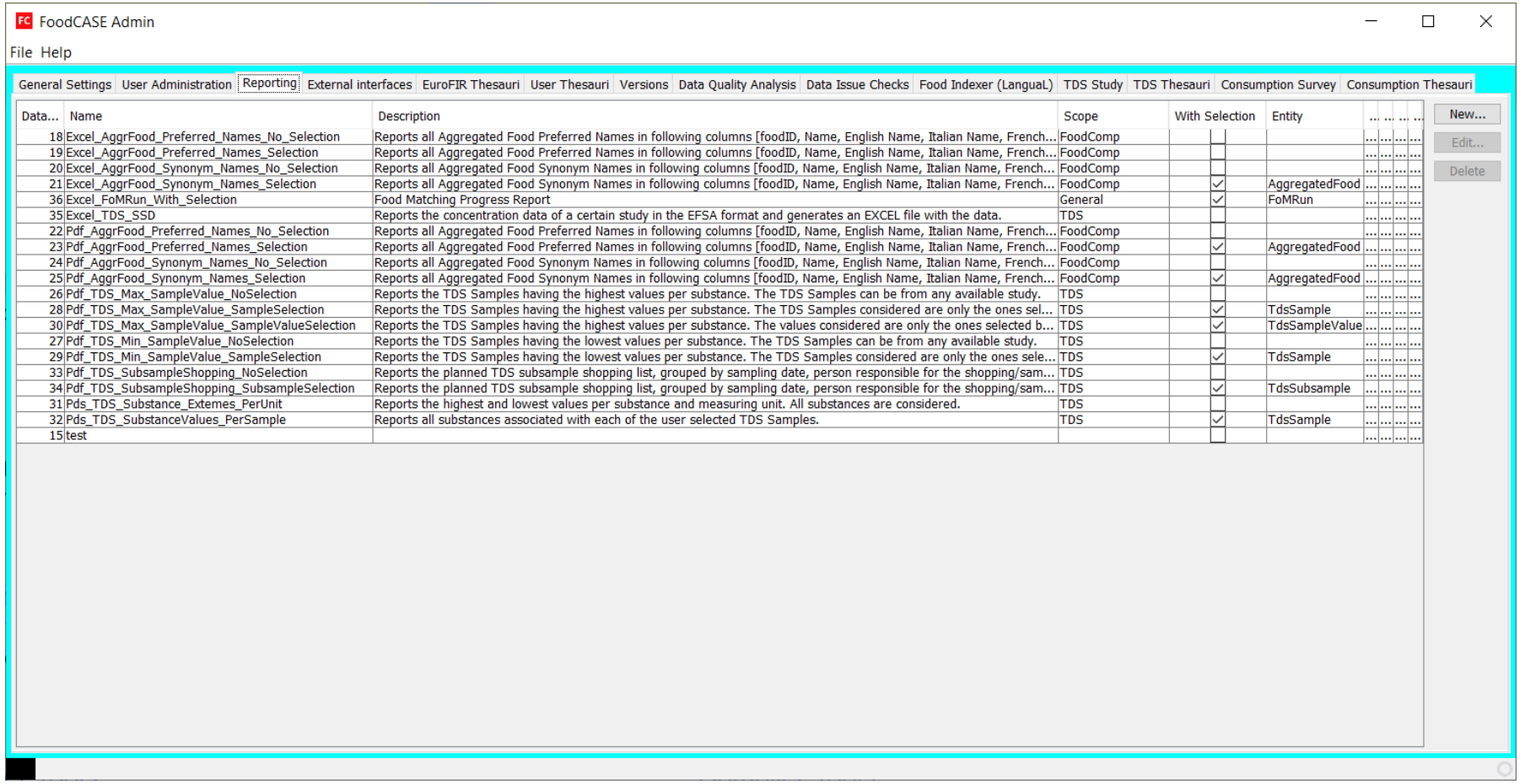
Excel Export



Generate report



Generate report



Exercises

Exercises

- 4a

Types of Import

FOODCASE

- FDTP Import
- EXCEL Import

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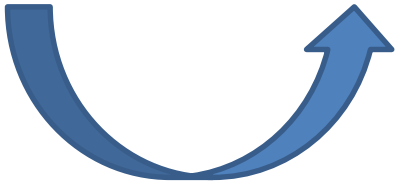
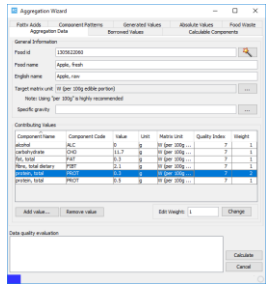
Three levels of food composition

FOODCASE

Initial Data	Aggregated Data	Recipe Data

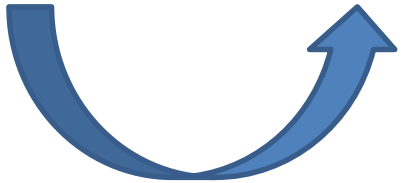
Apple
Protein 0.3 g/100g Protein 200 mg/50g …

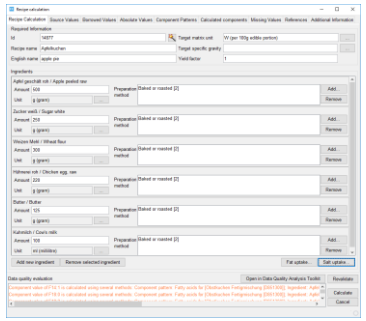




Aggregation wizard

Apple
Protein 0.35 g/100g Fat 0.3 g/100g … Energy 231.9 kJ/100 g





Recipe wizard

Apple Pie
Protein 2.68 g/100 g Fat 4.86 g/100 g … Energy 560 kJ/100 g

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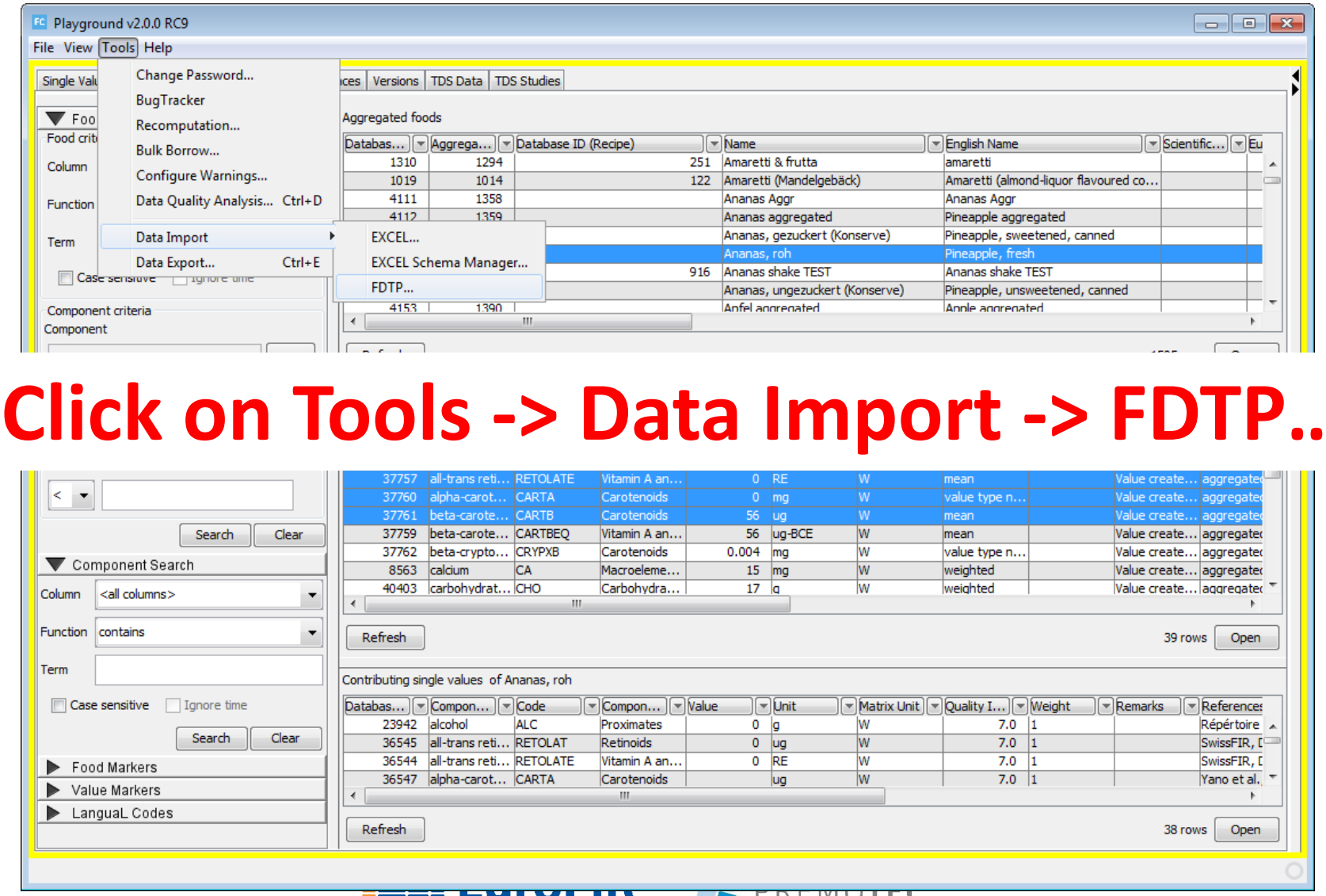
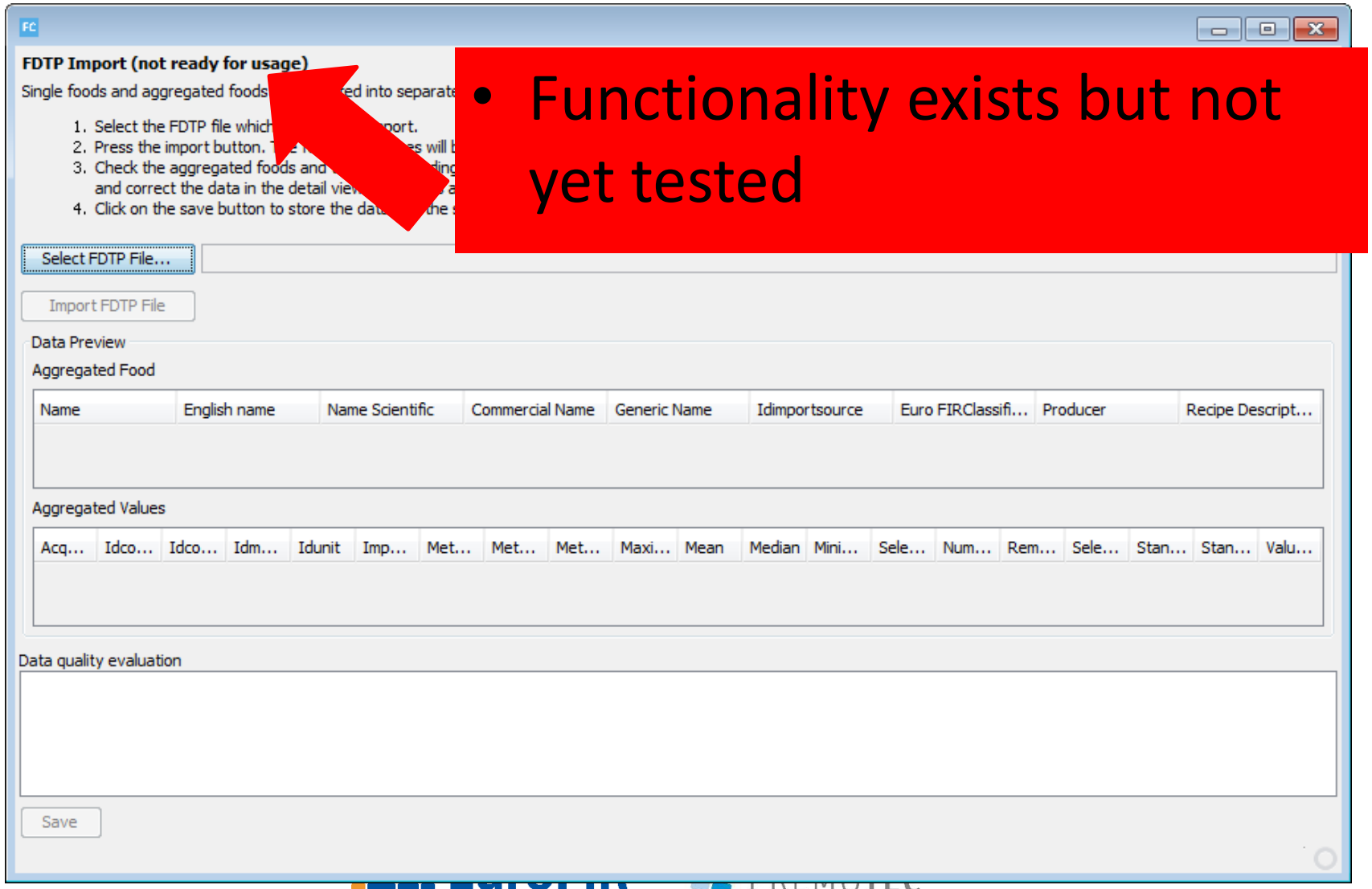
FDTP Import



Click on Tools -> Data Import -> FDTP…

FDTP Import



- Functionality exists but not yet tested

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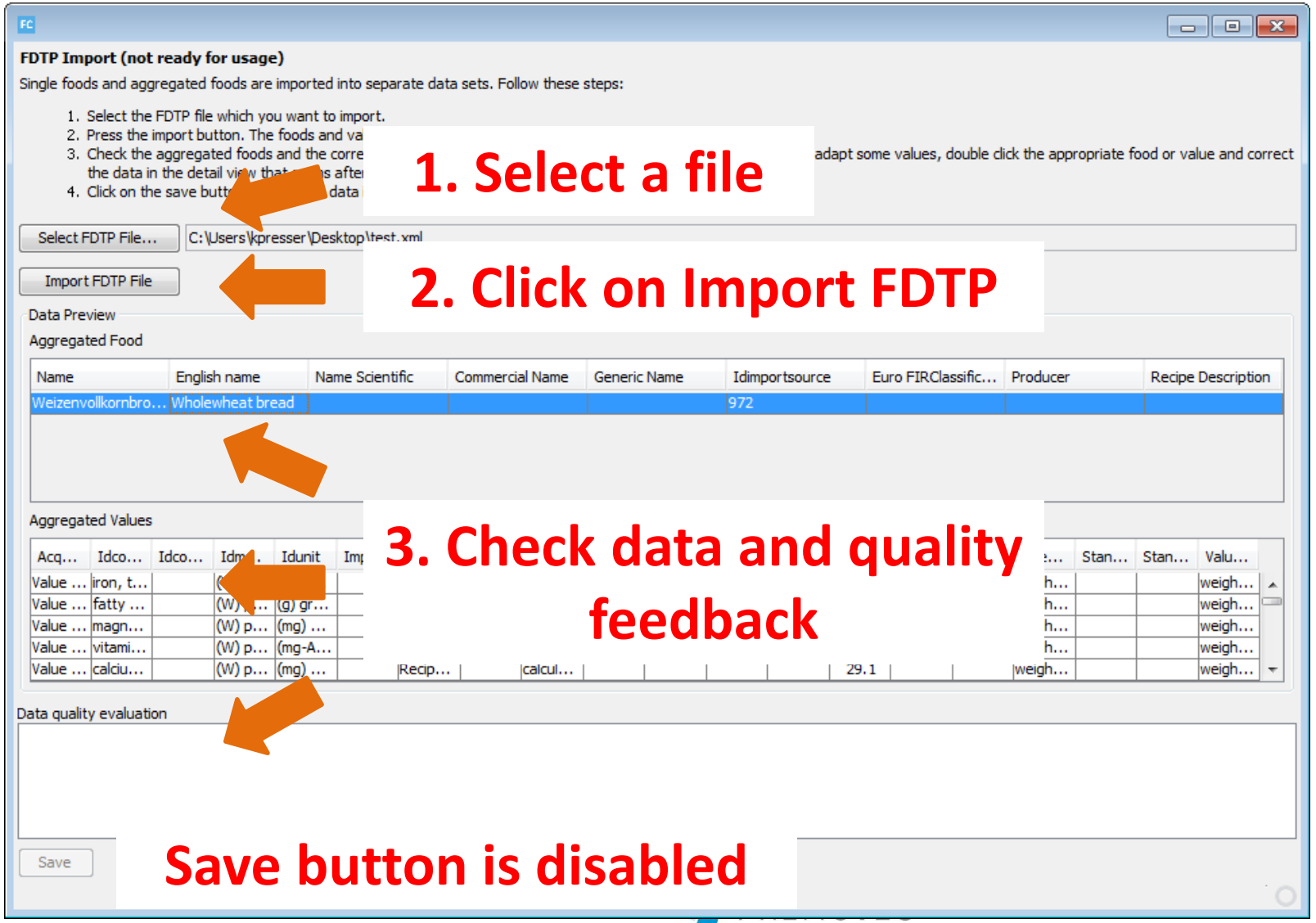
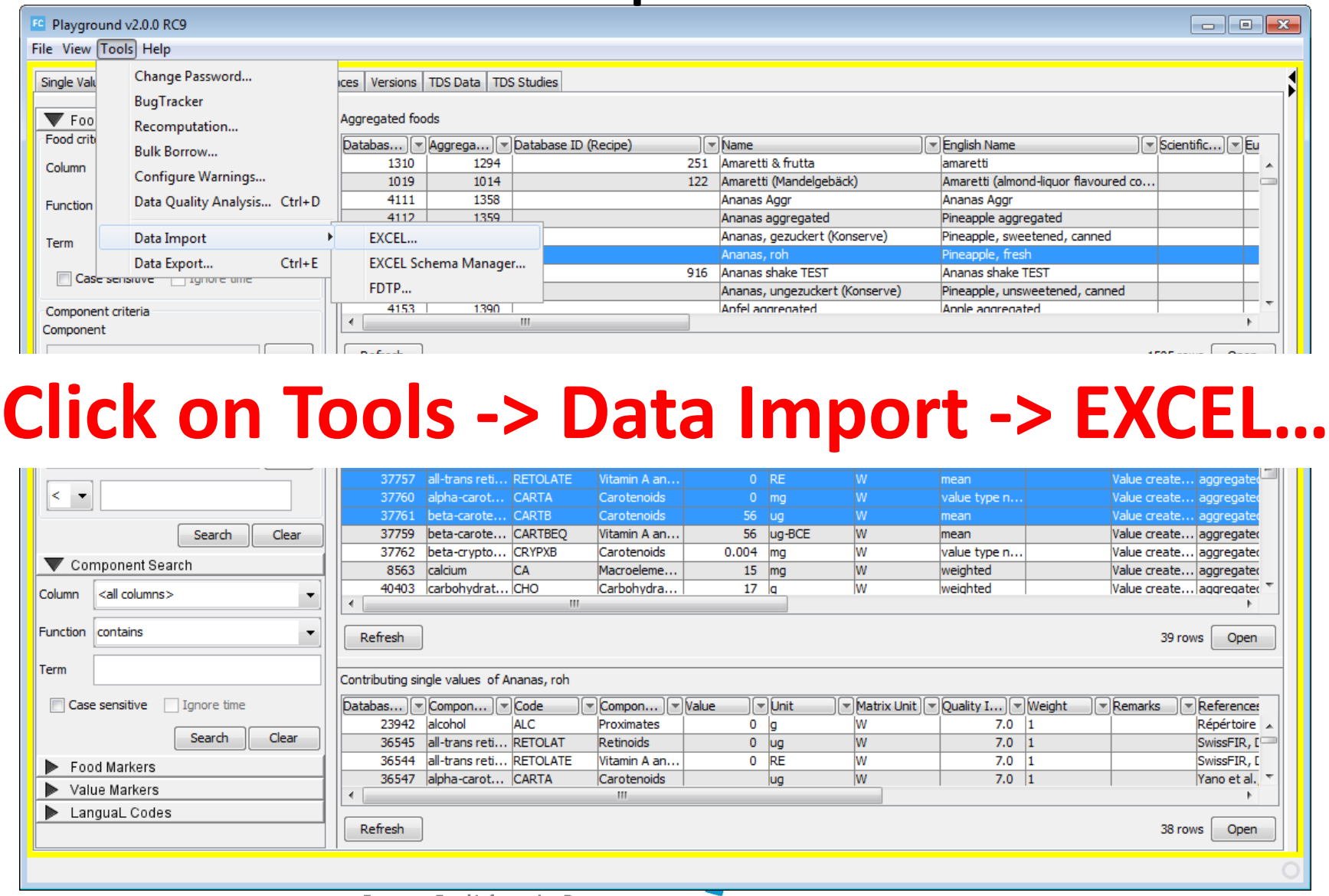
FDTP Import


FDTP Import (not ready for usage)
Single foods and aggregated foods are imported into separate data sets. Follow these steps:
1. Select the FDTP file which you want to import.
2. Press the import button. The foods and va
3. Check the aggregated foods and the corre
the data in the detail vi
4. Click on the save butt
adapt some values, double click the appropriate food or value and correct
1. Select a file
Select FDTP File...
C:\Users\kpresser\Desktop\test.xml
Import FDTP File
2. Click on Import FDTP
Data Preview
Aggregated Food
Name
English name
Name Scientific
Commercial Name
Generic Name
Idimportsource
Euro FIRClassific...
Producer
Recipe Description
Weizenvollkornbro...
Wholewheat bread
972
Aggregated Values
Acq...
Idco...
Idco...
Idunit
Stan...
Stan...
Valu...
Value ...
iron, t...
fatty ...
magn...
vitami...
calciu...
(mg) ...
(mg-A...
Recip...
calcul...
29.1
weigh...
3. Check data and quality feedback
Data quality evaluation
Save
Save button is disabled

EXCEL Import



Click on Tools -> Data Import -> EXCEL...

EXCEL Import

FOODCASE

- Column-wise import

Food	PROT value	FAT value	…
Food1			
Food2			
…			

- Row-wise import

Food	Component	Value	…
Food1	PROT		
	FAT		
	…		

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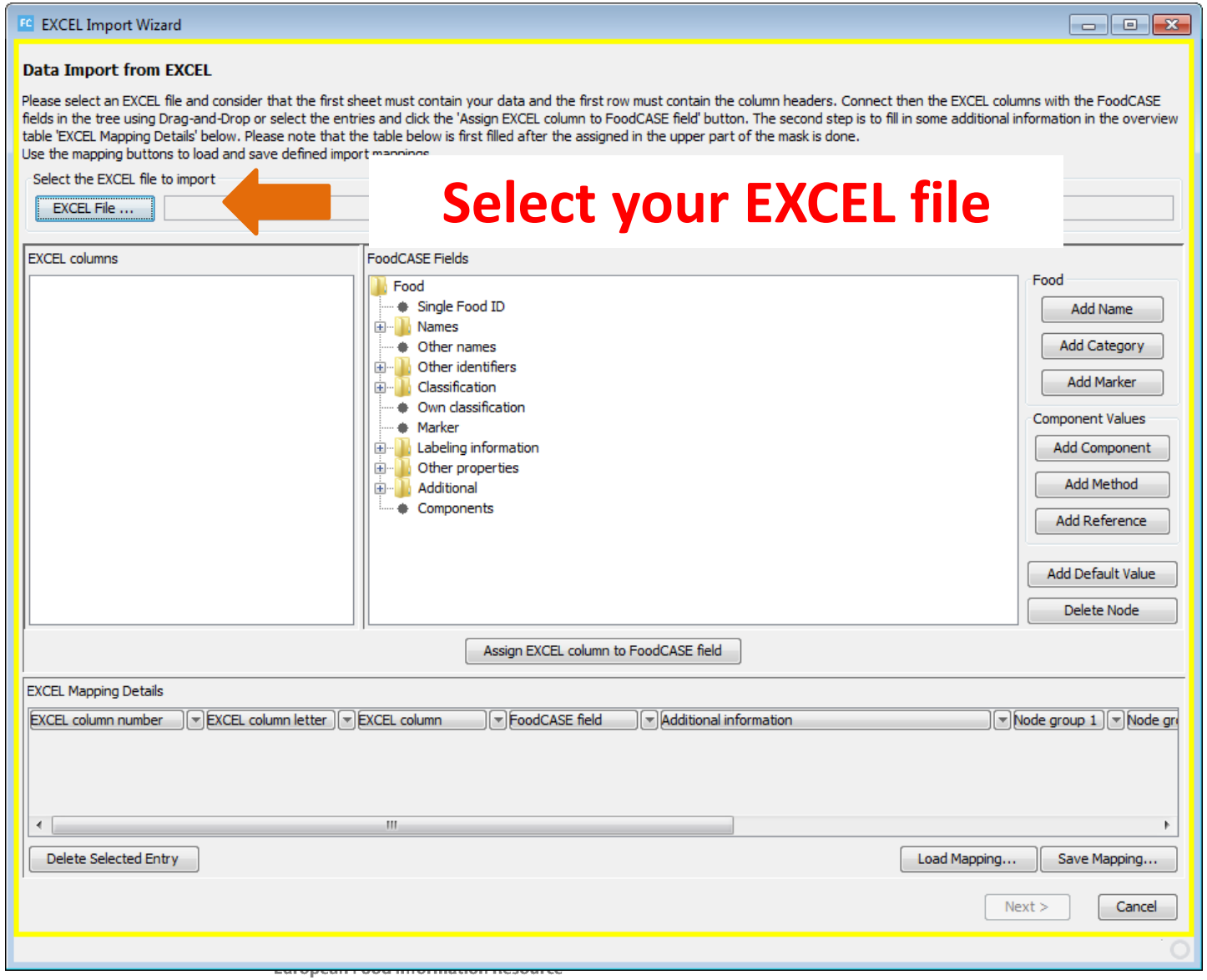
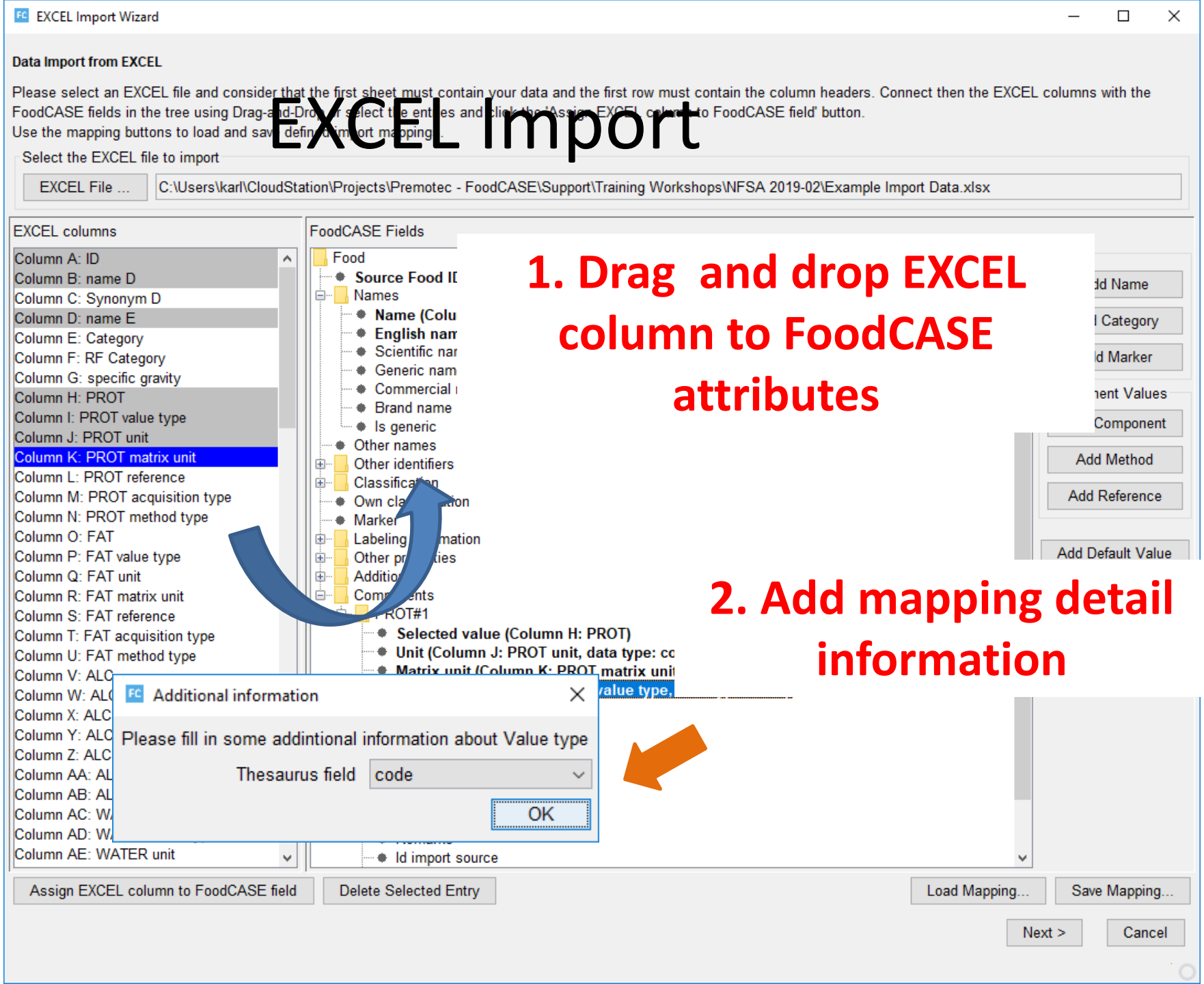
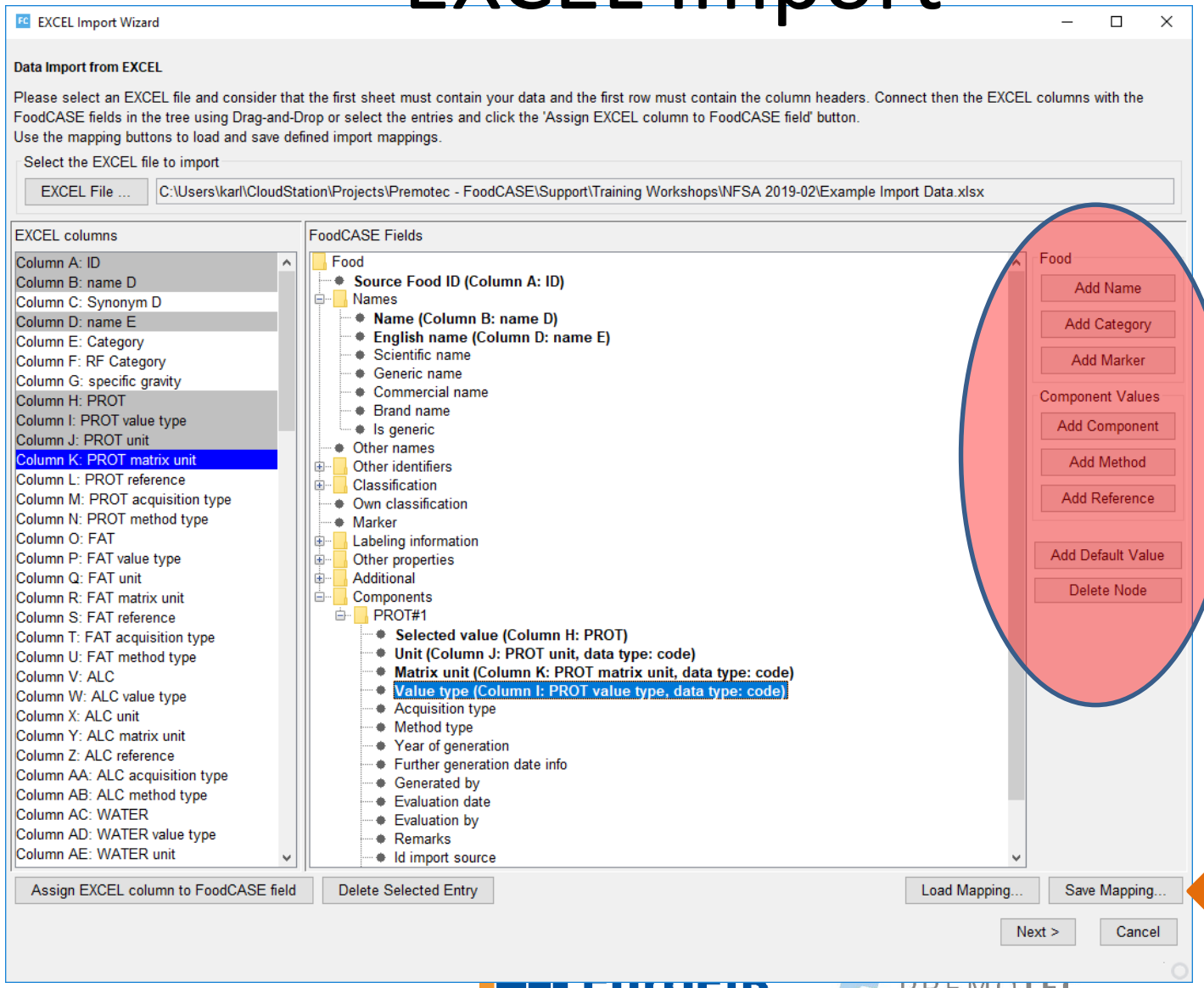
EXCEL Import



EXCEL Import



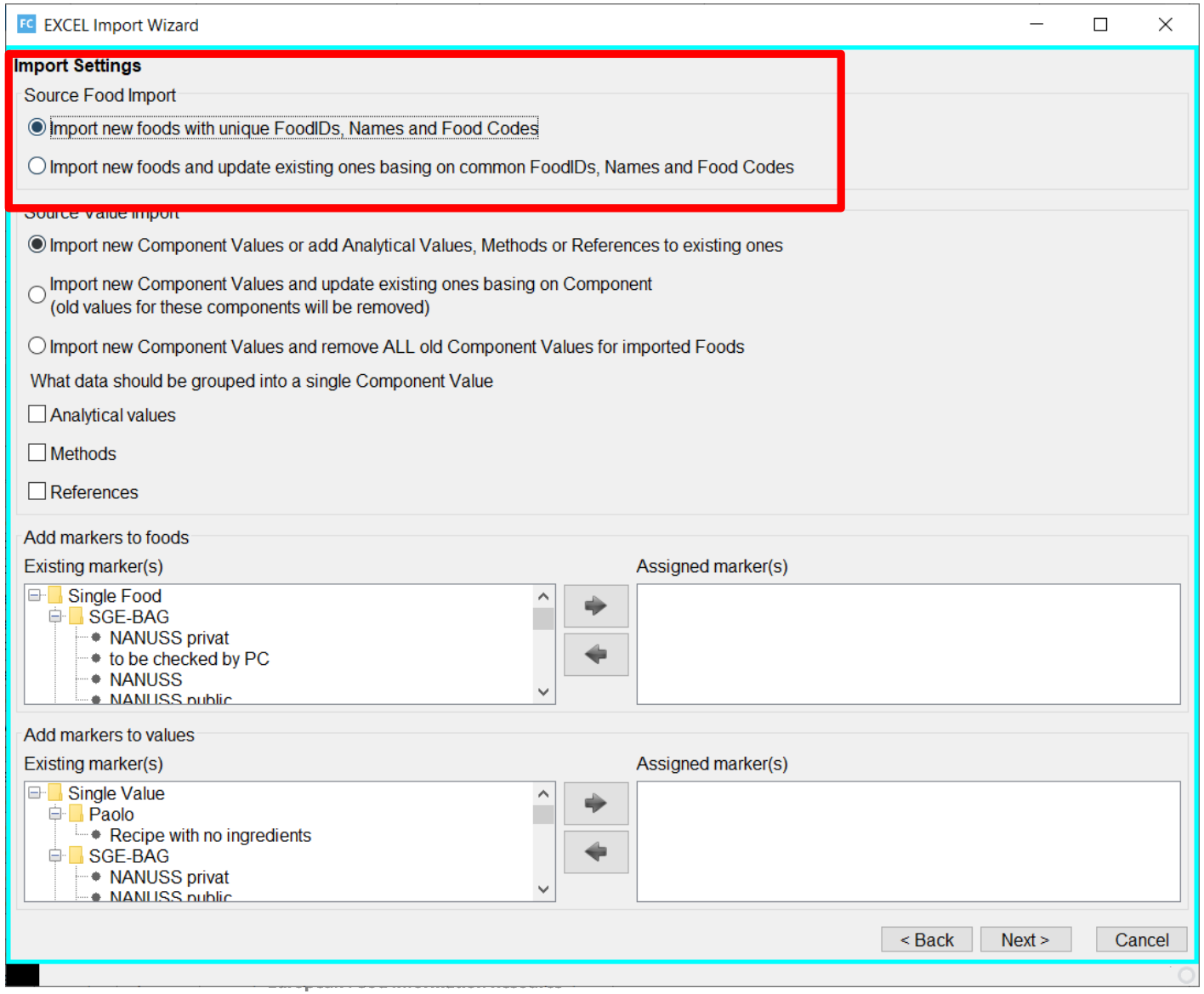
EXCEL Import



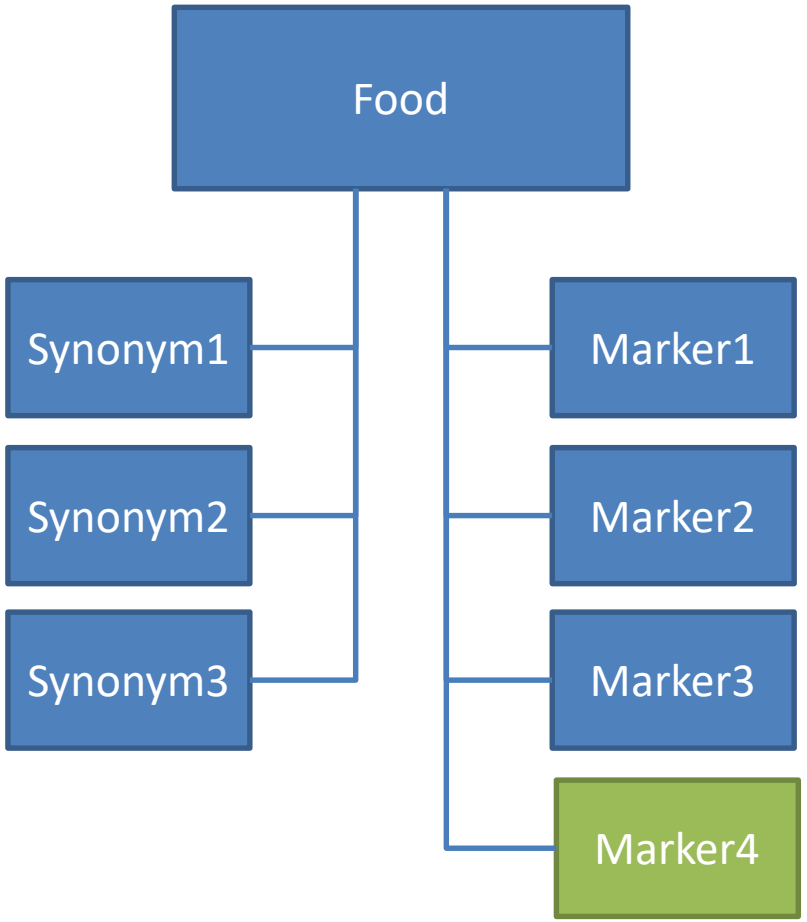
Add additional FoodCASE attributes as needed

Store and use mappings

EXCEL Import



EXCEL Import



What about collections of a food?

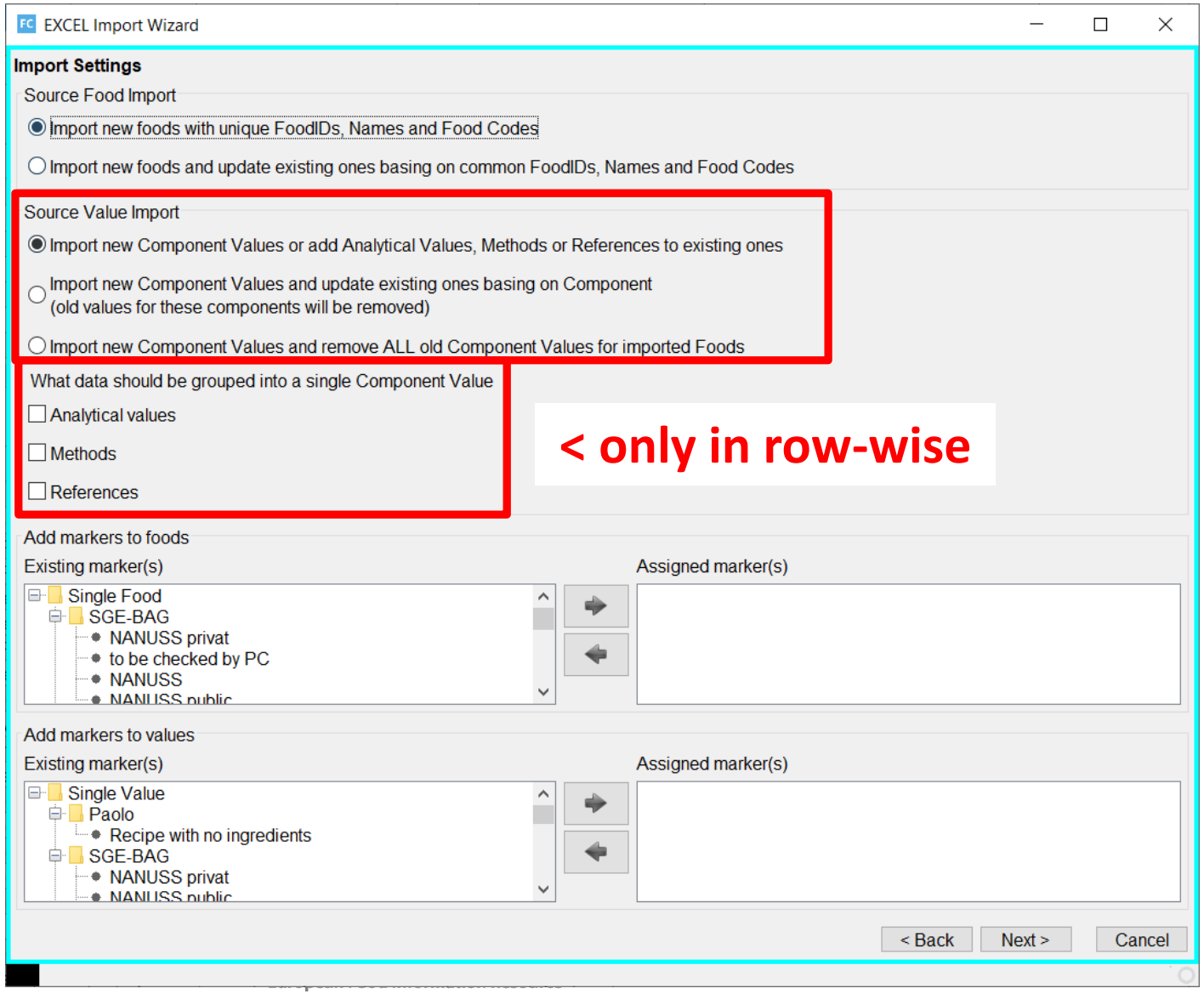
In a collection it is not clear if you want to replace

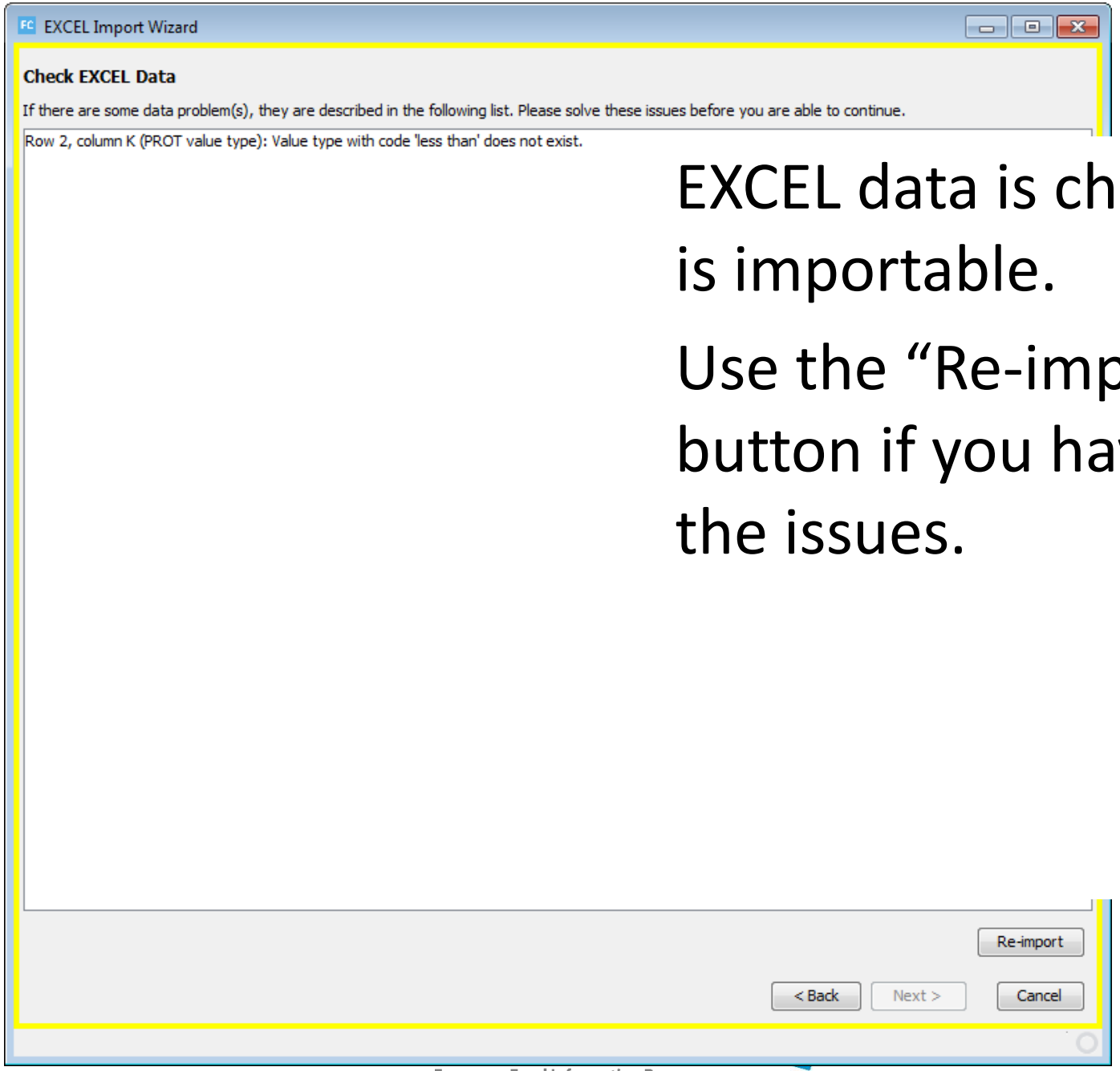
- none
- one or
- multiple

entries. Therefore, only insert is implemented.

The only exception is preferred synonym, which is replaced, other entries are added.

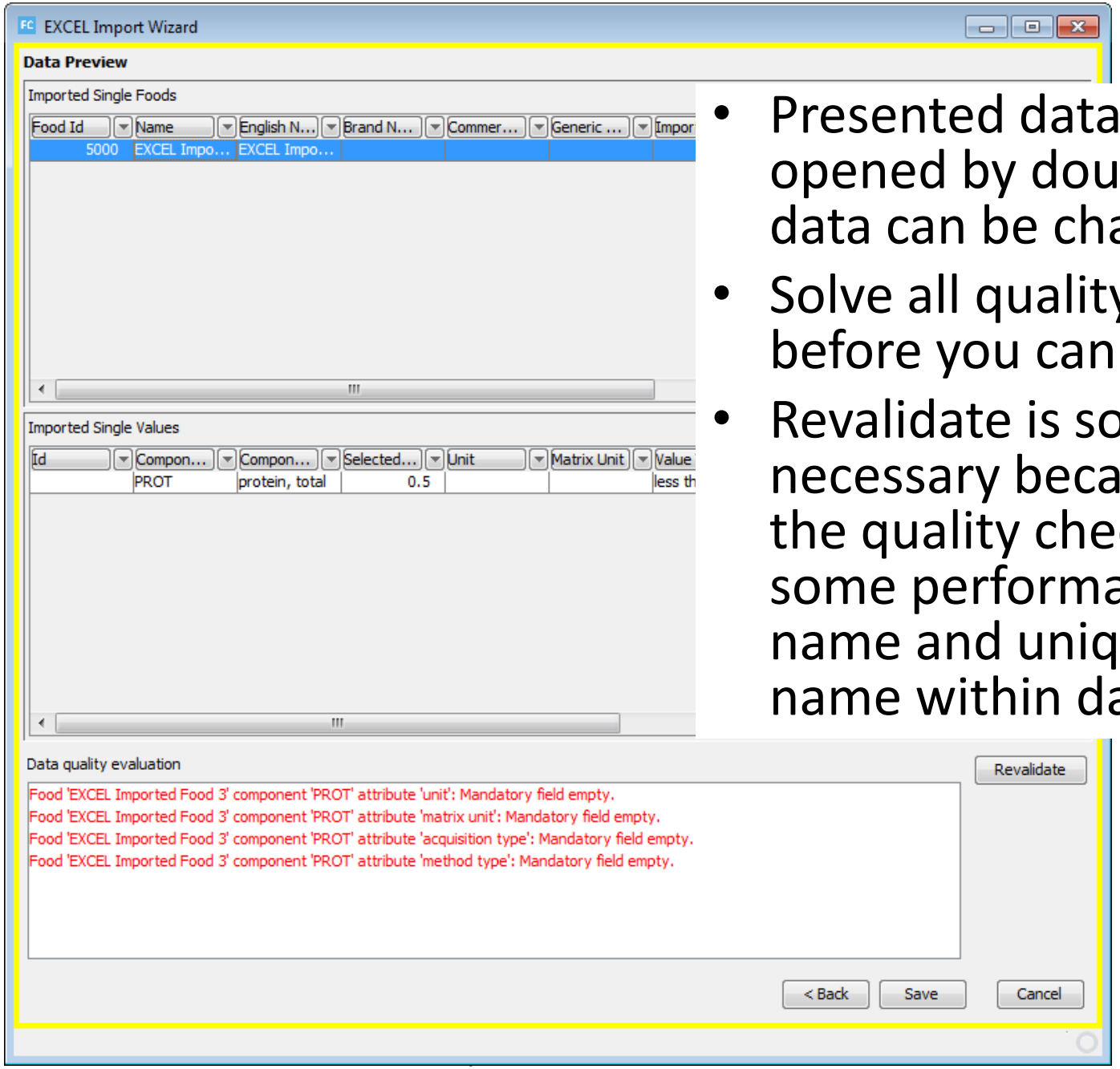
EXCEL Import



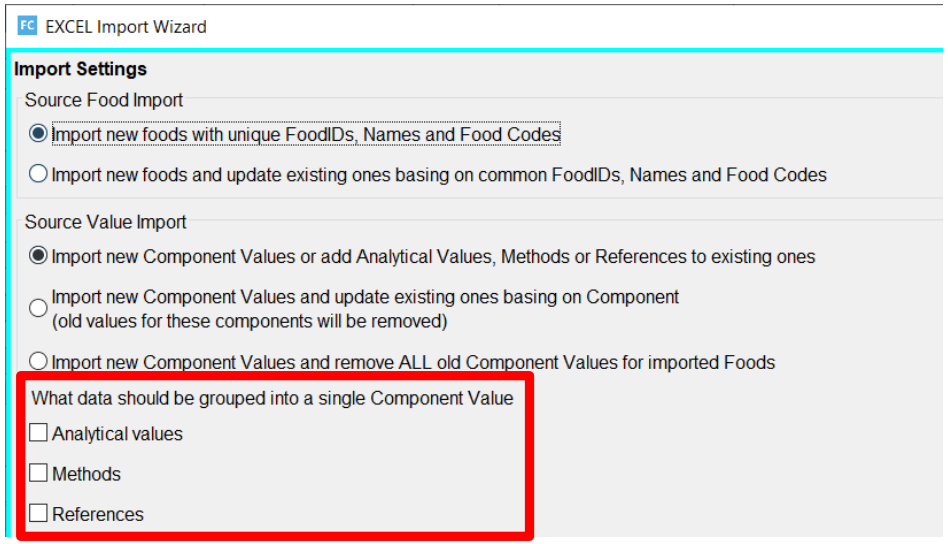


EXCEL data is checked if it is importable.

Use the “Re-import” button if you have fixed the issues.



- Presented data can be opened by double click and data can be changed.
- Solve all quality issues before you can save.
- Revalidate is sometimes necessary because some of the quality checks needs some performance. (Unique name and unique English name within dataset.



Food Name	Component	Reference
Food 1	10 g CA	Reference 1
Food 1	10 g CA	Reference 2

With grouping

Food 1

10 g CA
- Reference 1
- Reference 2

Without grouping

Food 1

10 g CA
- Reference 1

10 g CA
- Reference 2

EXCEL Import Exercise

Exercises

- 4b
- **Note:** Please do not save data as everyone is using the same files.

FOODCASE

LangualL

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LanguaL and Food Product Indexer

FOODCASE

FoodCASE has a functionality to export single foods and aggregated foods to the Food Product Indexer.

Foods can then be indexed there and loaded back to FoodCASE.

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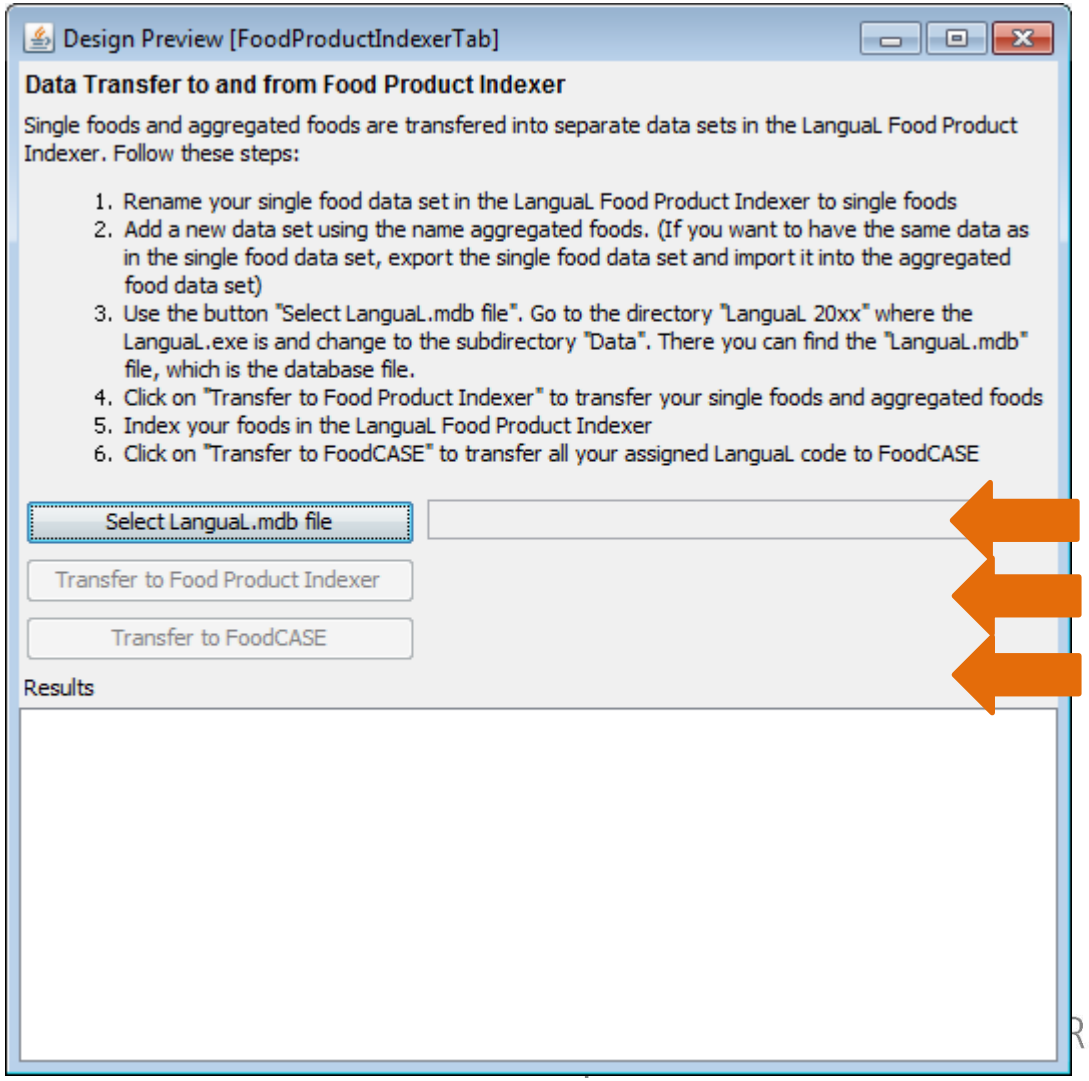
LanguaL and Food Product Indexer



Select file to export
Export to FPI
Import from FPI

FOODCASE

Data quality analysis

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The Spinach Popeye Iron Decimal Error Story (SPIDES)

FOODCASE

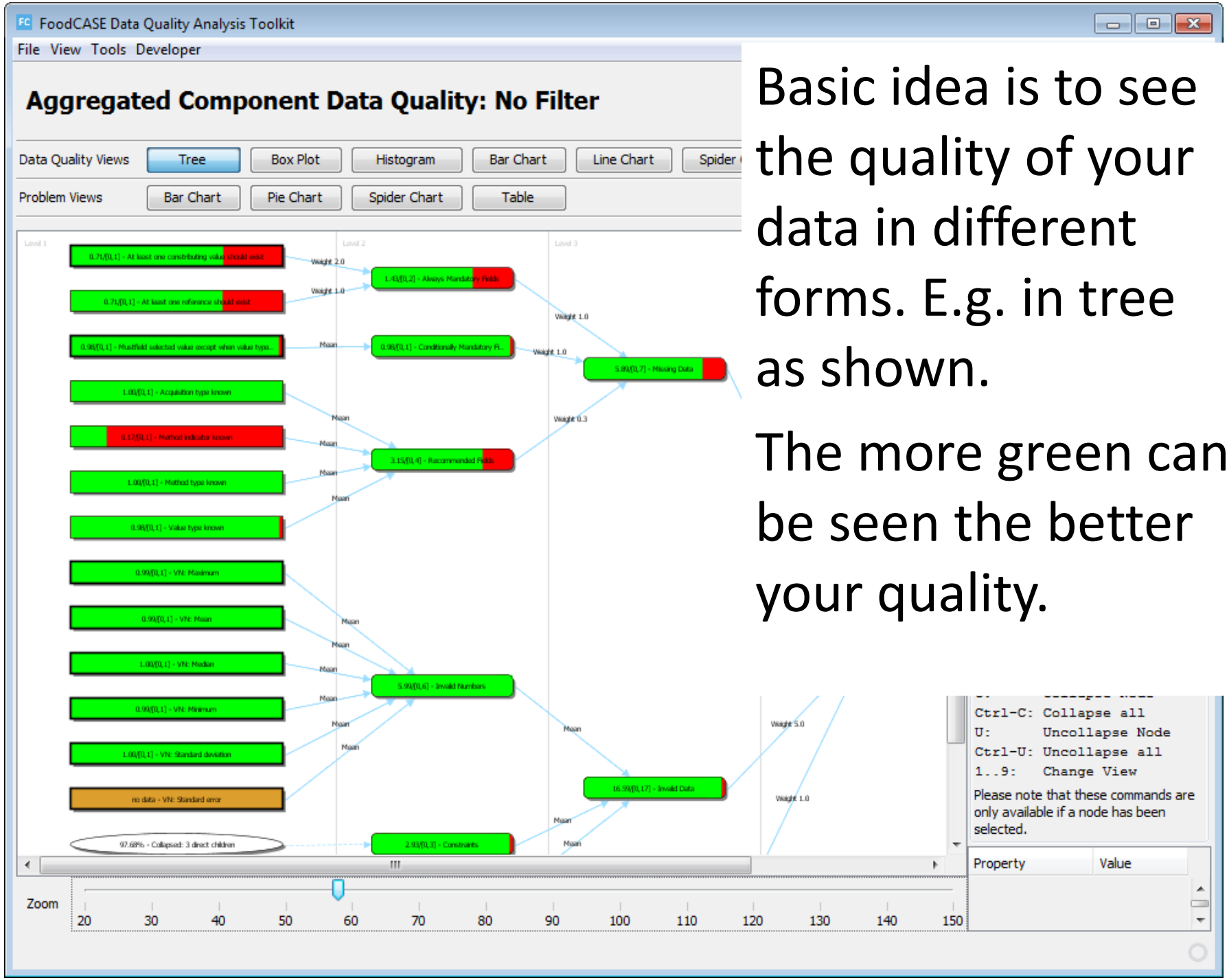
TABLE I

Inorganic Iron Content of Biological Materials As Determined by Bipyridine Method with Different Concentrations of Acetic Acid

Material	α,α′-Bipyridine analysis							
	Total Fe	Buffer pH 5	2 per cent acetic acid	4 per cent acetic acid	10 per cent acetic acid	20 per cent acetic acid	30 per cent acetic acid	50 per cent acetic acid
	mg. per gm.	mg. per gm.	mg. per gm.	mg. per gm.	mg. per gm.	mg. per gm.	mg. per gm.	mg. per gm.
Pork liver (fresh)	0.10	0.027	0.006	0.126	0.124	0.127	0.123	0.136
Beef "								0.056
Pork heart								
Beef " "	0.23	0.1[illegible]0		0.157	0.158	0.158		
Soy beans (not roasted)	0.090	0.055		0.071	0.073	0.075		
" " (roasted)	0.10	0.046		0.055	0.061	0.060		
Beef skeletal muscle (dry)	0.142	0.064		0.074	0.075	0.073		
Oysters (dry)	0.32	0.067		0.080	0.080	0.085		
Blood (rats)	0.47				0.050	0.052		
Alfalfa	0.132	0.034		0.036	0.036	0.036		
Mead's cereal	0.050	0.016		0.015	0.017	0.018		0.018
Northwestern yeast	0.43	0.27		0.28	0.28	0.27	0.27	
Spinach	0.53	0.107			0.120	0.125		

Spinach.....0.53

Sherman, W.C. Elvehjem, C.A. and Hart.E.B. (1934). Further Studies on the Availability of Iron in Biological Materials. *The Journal of Biological Chemistry*. Vol. 107. N0. 3. pp383-394



Basic idea is to see the quality of your data in different forms. E.g. in tree as shown.

The more green can be seen the better your quality.

Tree structure of data quality requirements

FOODCASE

Requirements:

At least one reference should exists

Maximum value >= mean value

161 data quality requirements are available in FoodCASE.

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Requirement Classification

FOODCASE

Classification scope:

Hard constraint	Soft constraint	Indicator
Selected value must be numerical	At least one reference should exists	Was an adequate measurement method used
	It is known that quality is influenced	It is **NOT** known if quality is influenced but it is assumed

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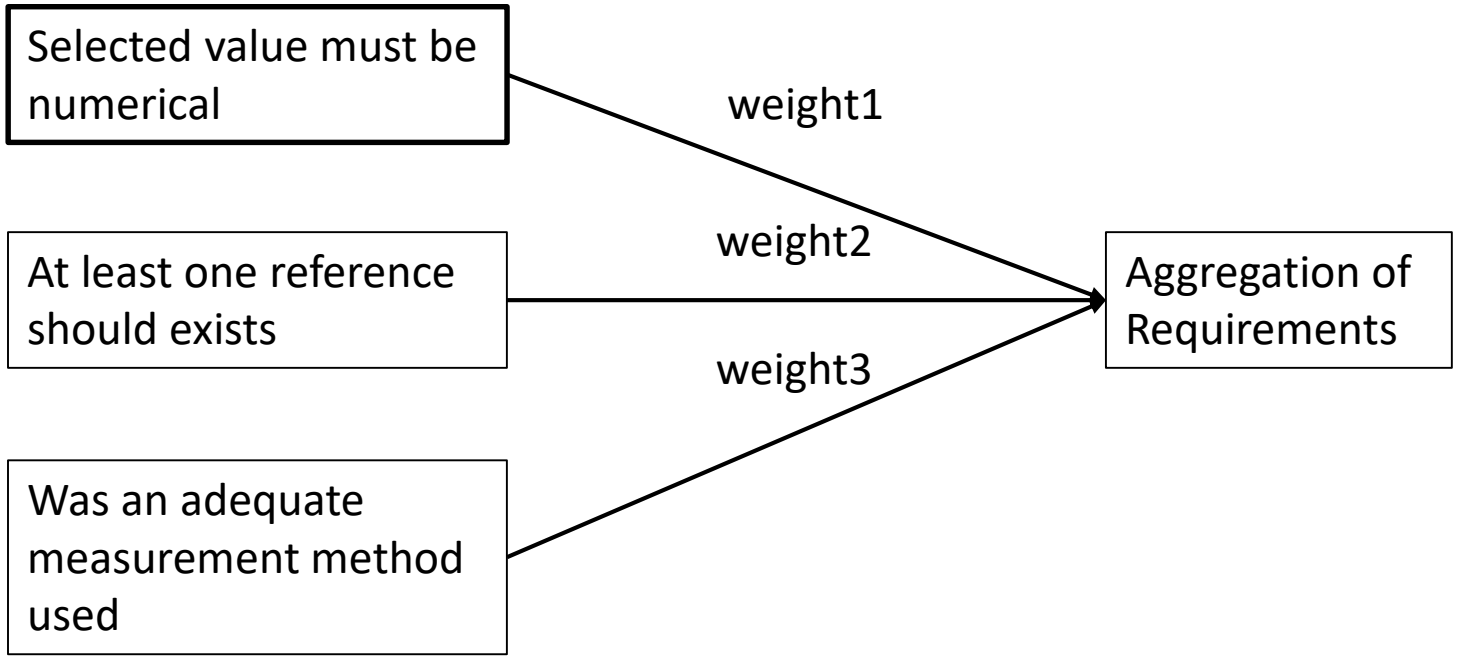
RODQ Schema

FOODCASE

Requirement-Oriented Data Quality Schema (RODQ):



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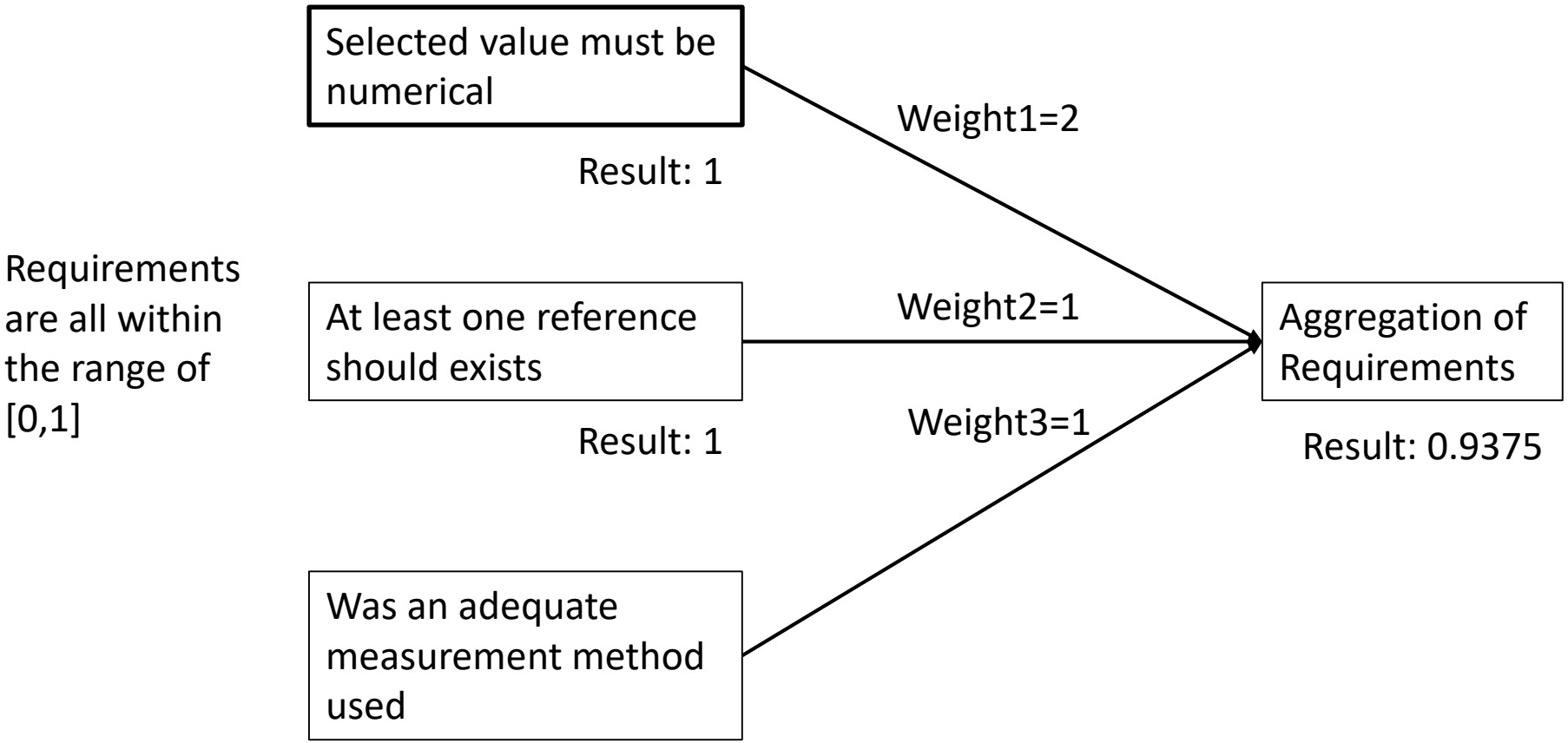
Evaluation of Requirement

Selected value must be numerical	Possible values: true/false or 1/0
Was an adequate measurement method used	Possible values: Method 1: 0 Method 2: 0.5 Method 3: 0.75 Method 4: 1

Note: It is recommended that possible values are in the range from 0 to 1.

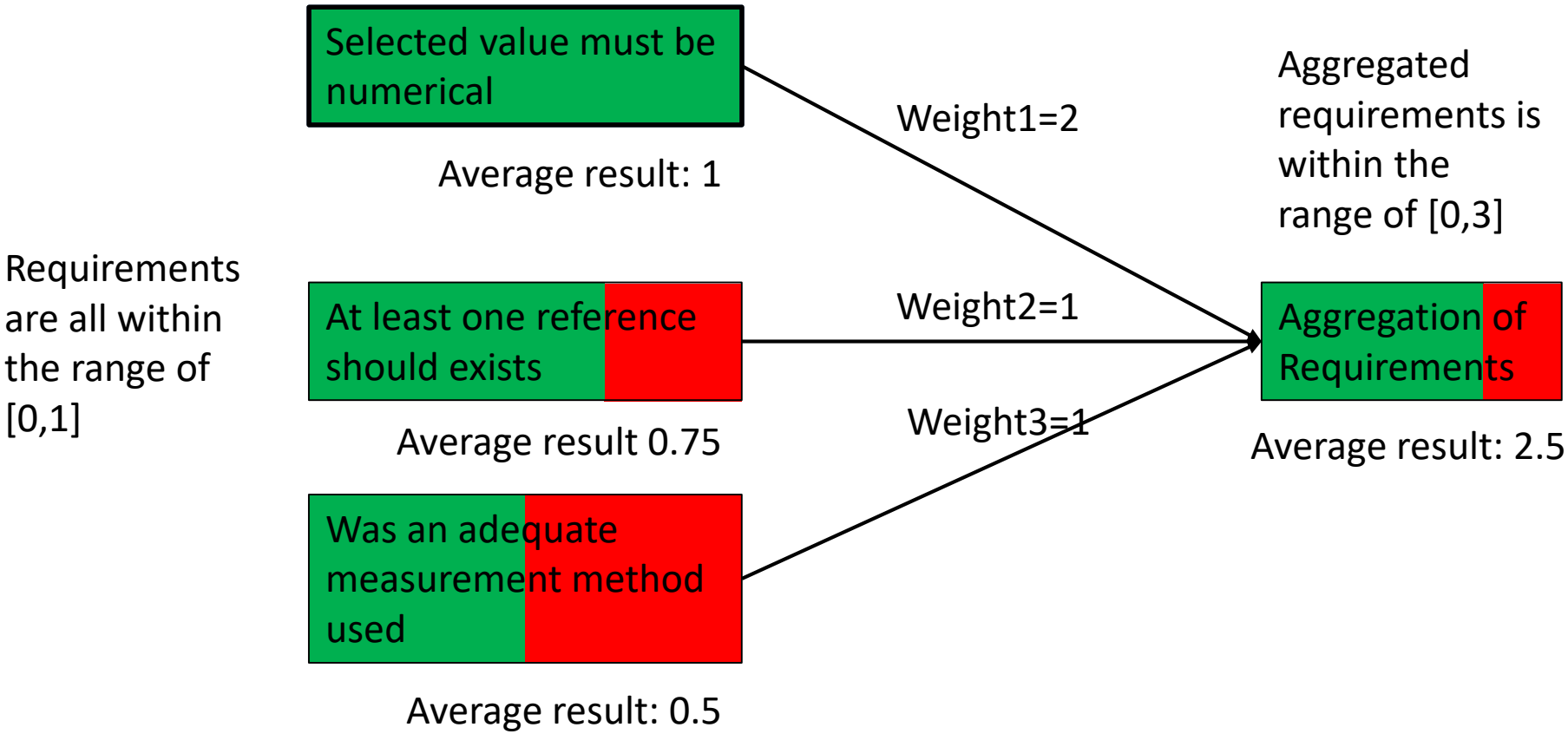
Evaluation of RODQ Schema

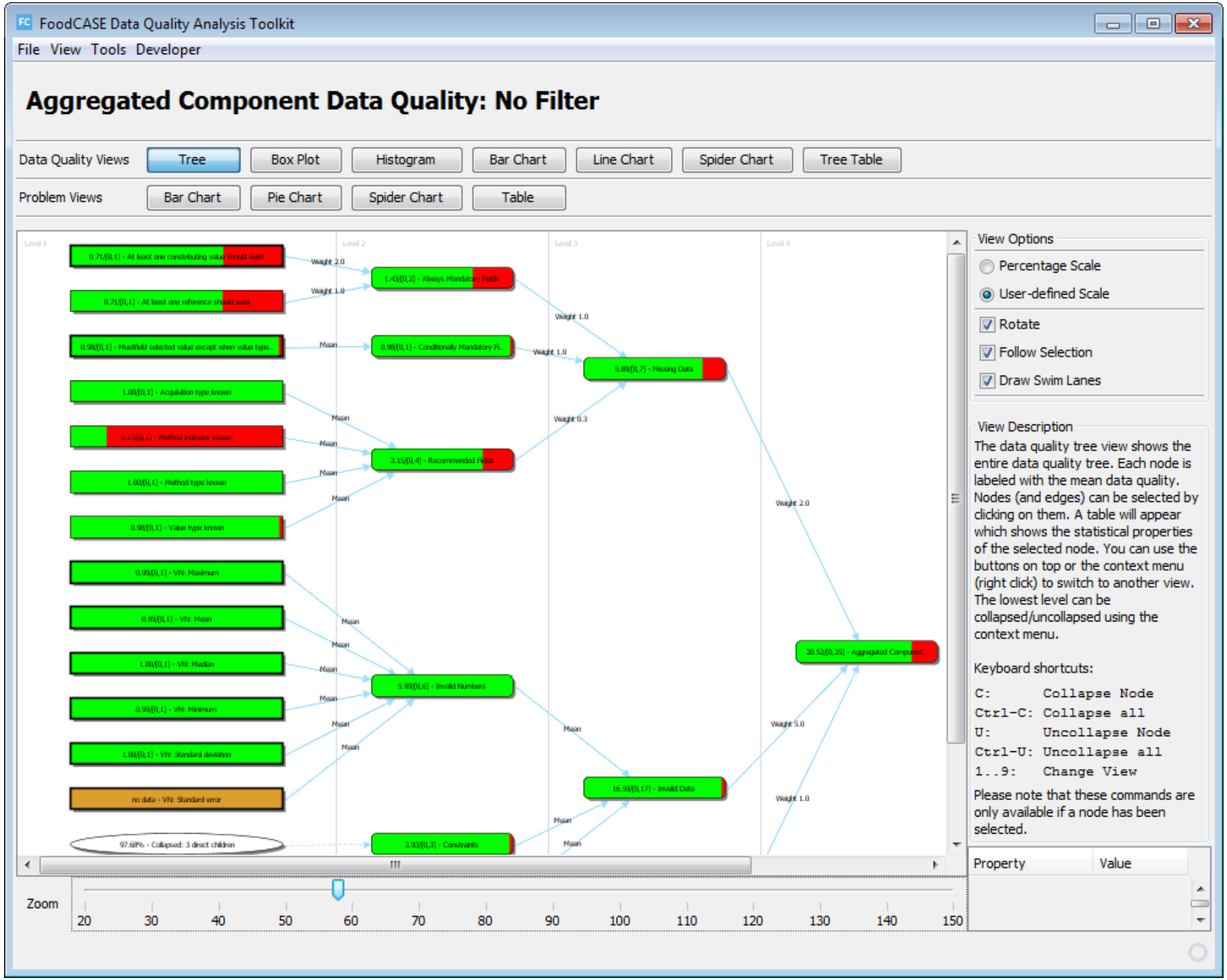
The evaluation of a RODQ schema for a vitamin C value of an apple would look like:



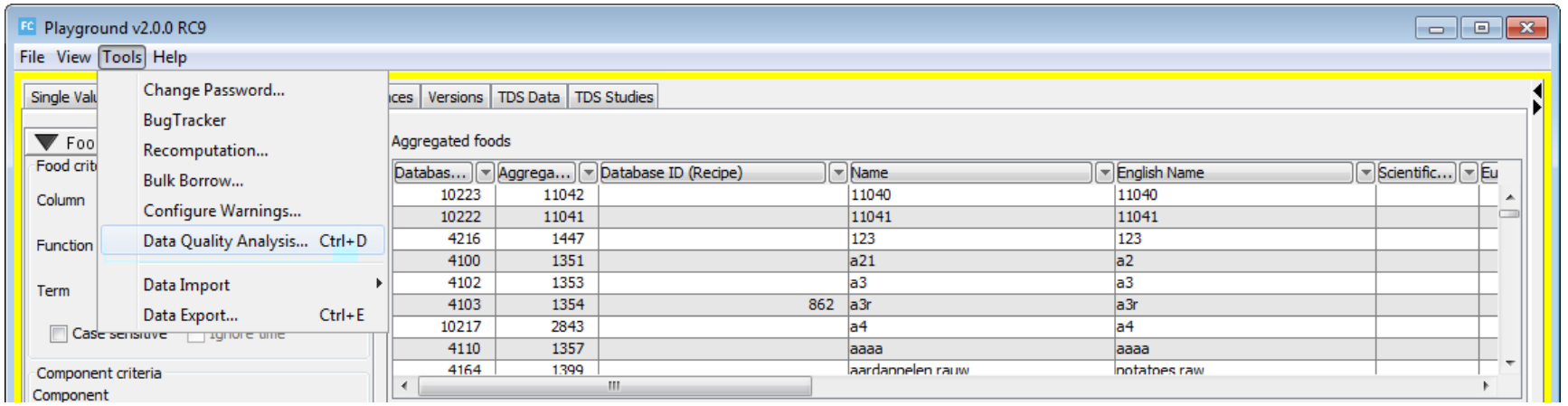
Evaluation of RODQ Schema

The evaluation of a RODQ schema for **all values of all foods** in the DB would look like:

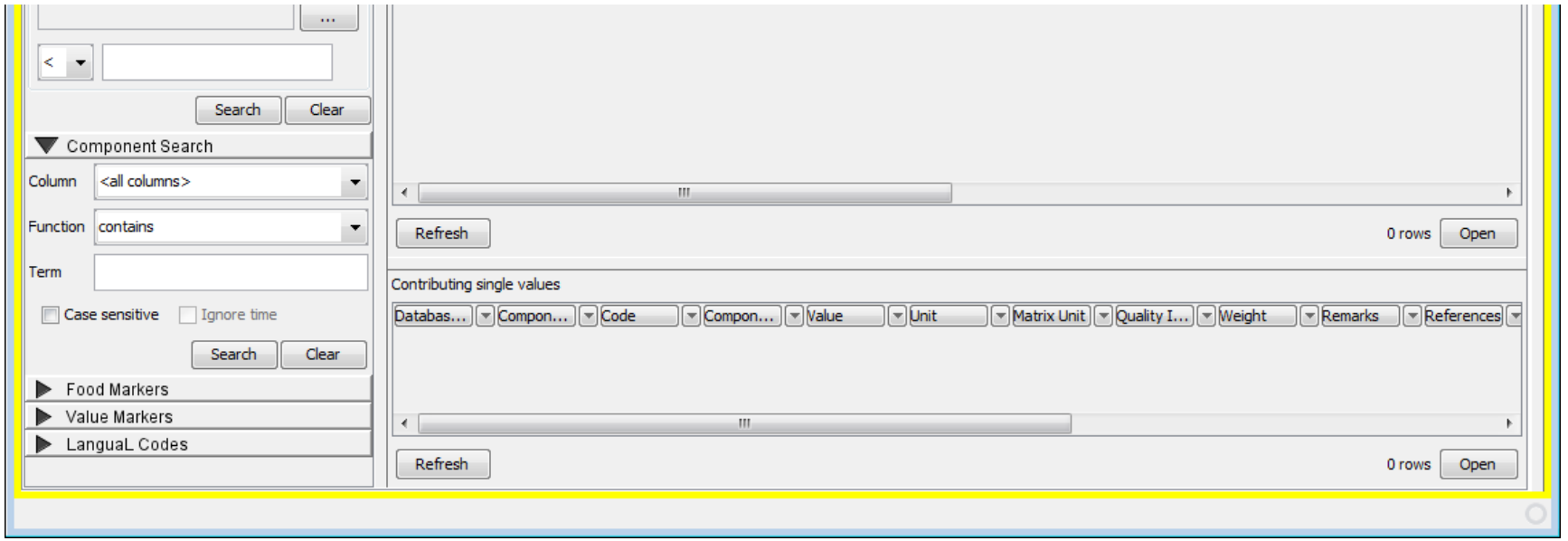



FoodCASE Data Quality Analysis Toolkit
File View Tools Developer
Aggregated Component Data Quality: No Filter
Data Quality Views
Tree
Box Plot
Histogram
Bar Chart
Line Chart
Spider Chart
Tree Table
Problem Views
Bar Chart
Pie Chart
Spider Chart
Table
Level 1
Level 2
Level 3
Level 4
0.71[0,1] - At least one constributing value should exist
0.71[0,1] - At least one reference should exist
0.98[0,1] - Mustfield selected value except when value type...
1.00[0,1] - Acquisition type known
0.17[0,1] - Method indicator known
1.00[0,1] - Method type known
0.98[0,1] - Value type known
0.99[0,1] - VN: Maximum
0.99[0,1] - VN: Mean
1.00[0,1] - VN: Median
0.99[0,1] - VN: Minimum
1.00[0,1] - VN: Standard deviation
no data - VN: Standard error
97.68% - Collapsed: 3 direct children
1.43[0,2] - Always Mandatory Fields
0.98[0,1] - Conditionally Mandatory Fi...
3.15[0,4] - Recommended Fields
5.99[0,6] - Invalid Numbers
2.93[0,3] - Constraints
5.89[0,7] - Missing Data
16.59[0,17] - Invalid Data
20.52[0,25] - Aggregated Componen...
Weight 2.0
Weight 1.0
Mean
Weight 0.3
Weight 5.0
View Options
Percentage Scale
User-defined Scale
Rotate
Follow Selection
Draw Swim Lanes
View Description
The data quality tree view shows the entire data quality tree. Each node is labeled with the mean data quality. Nodes (and edges) can be selected by clicking on them. A table will appear which shows the statistical properties of the selected node. You can use the buttons on top or the context menu (right click) to switch to another view. The lowest level can be collapsed/uncollapsed using the context menu.
Keyboard shortcuts:
C: Collapse Node
Ctrl-C: Collapse all
U: Uncollapse Node
Ctrl-U: Uncollapse all
1..9: Change View
Please note that these commands are only available if a node has been selected.
Property
Value
Zoom
20
30
40
50
60
70
80
90
100
110
120
130
140
150

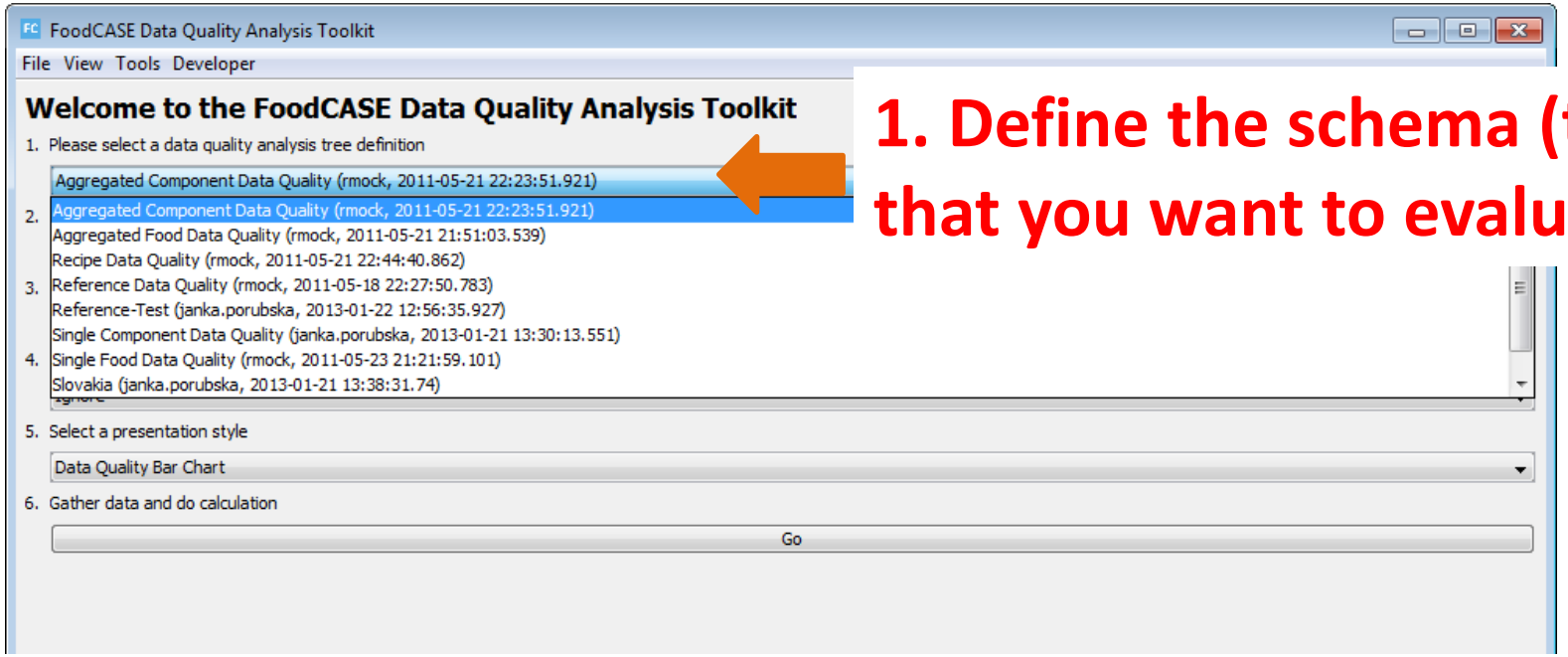
How to get to Evaluation



Click on Tools -> Data Quality Analysis

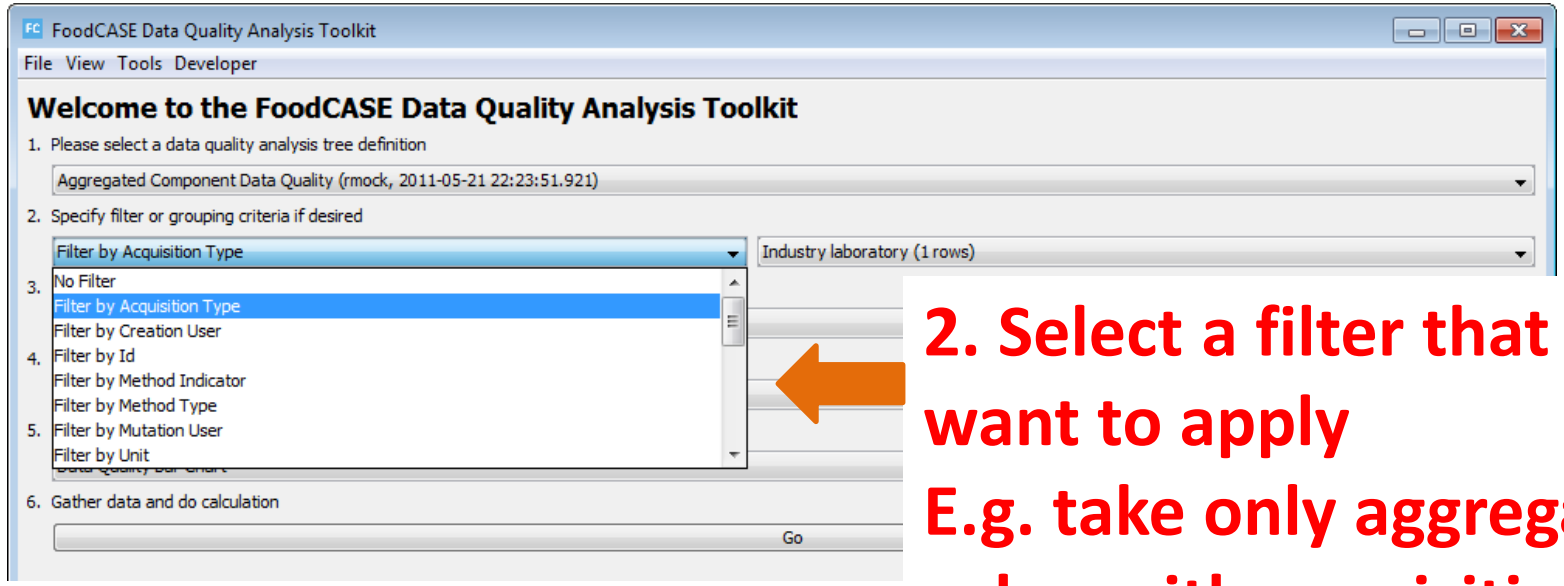


RODQ Evaluation



1. Define the schema (tree) that you want to evaluate

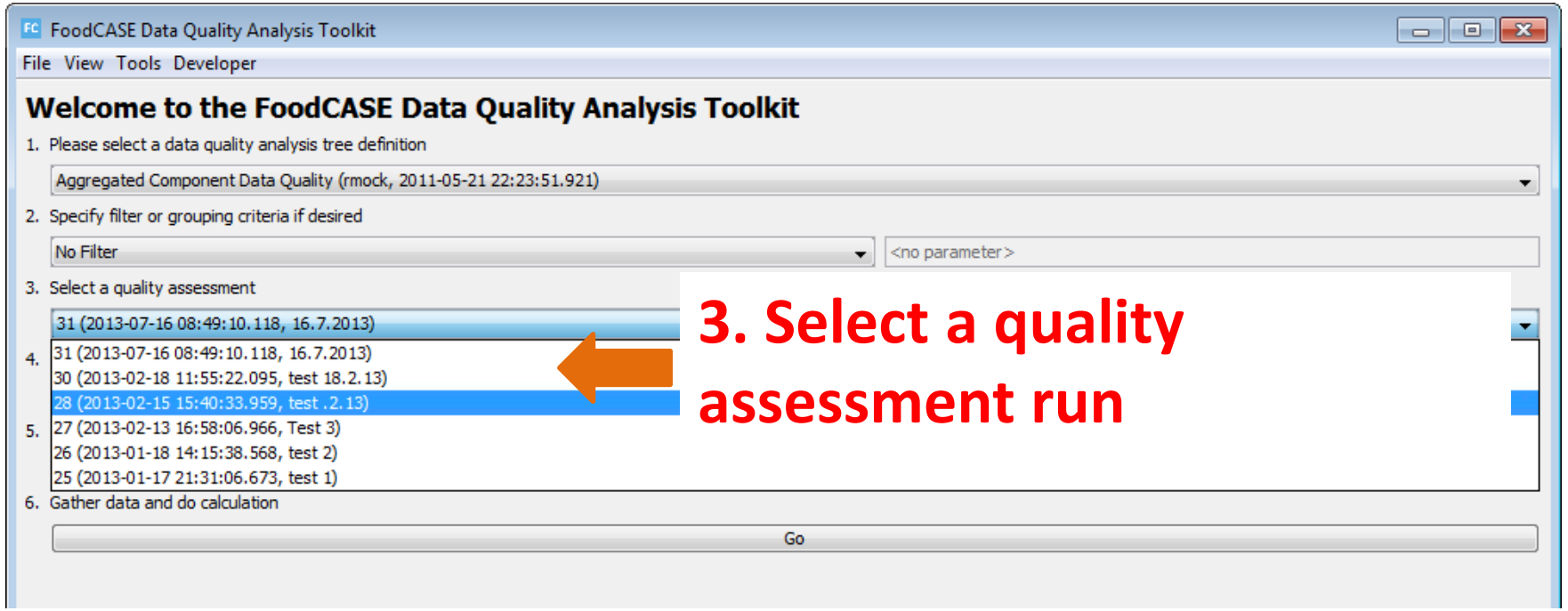
RODQ Evaluation



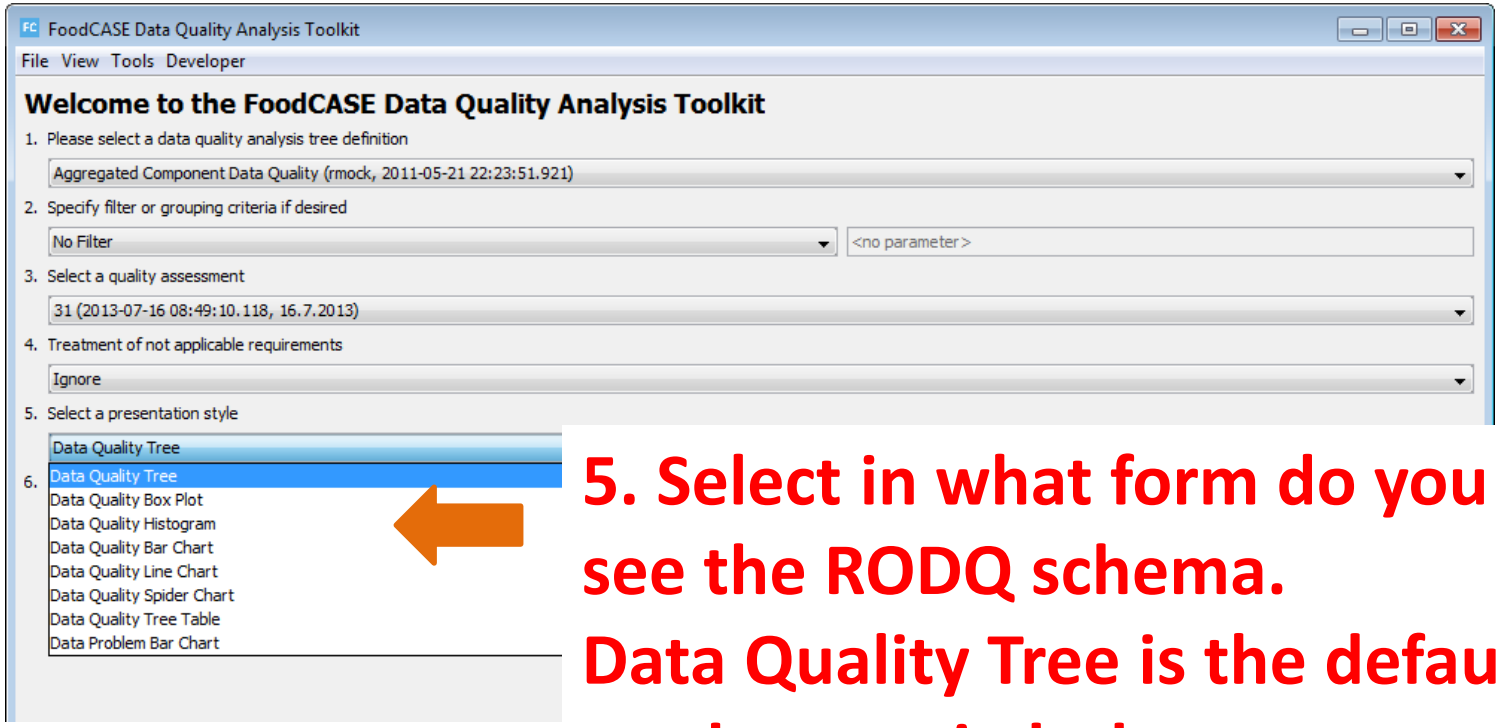
2. Select a filter that you want to apply

E.g. take only aggregated value with acquisition type = Industry laboratory

RODQ Evaluation



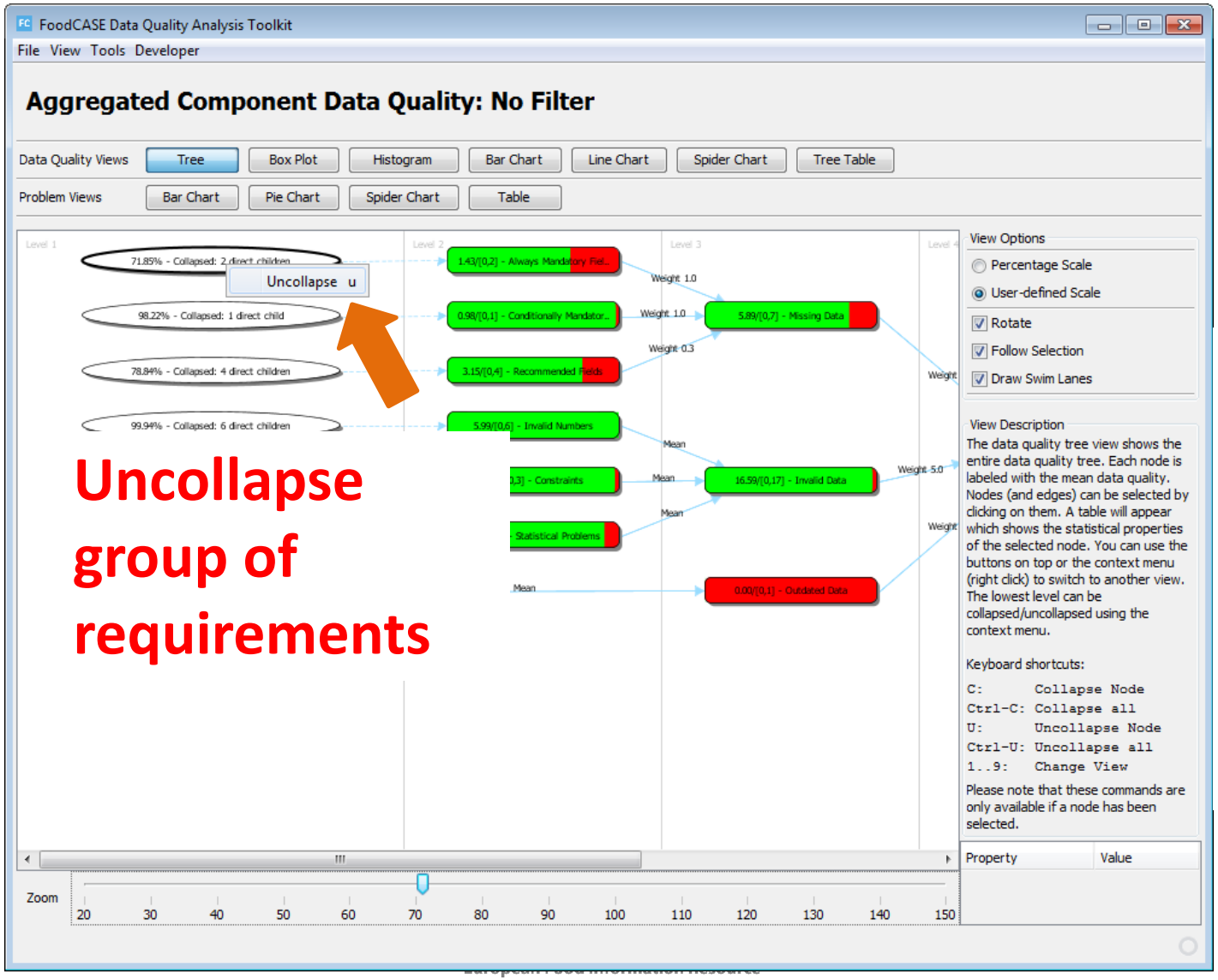
RODQ Evaluation



5. Select in what form do you want to see the RODQ schema.
Data Quality Tree is the default and you can later switch the presentation style.

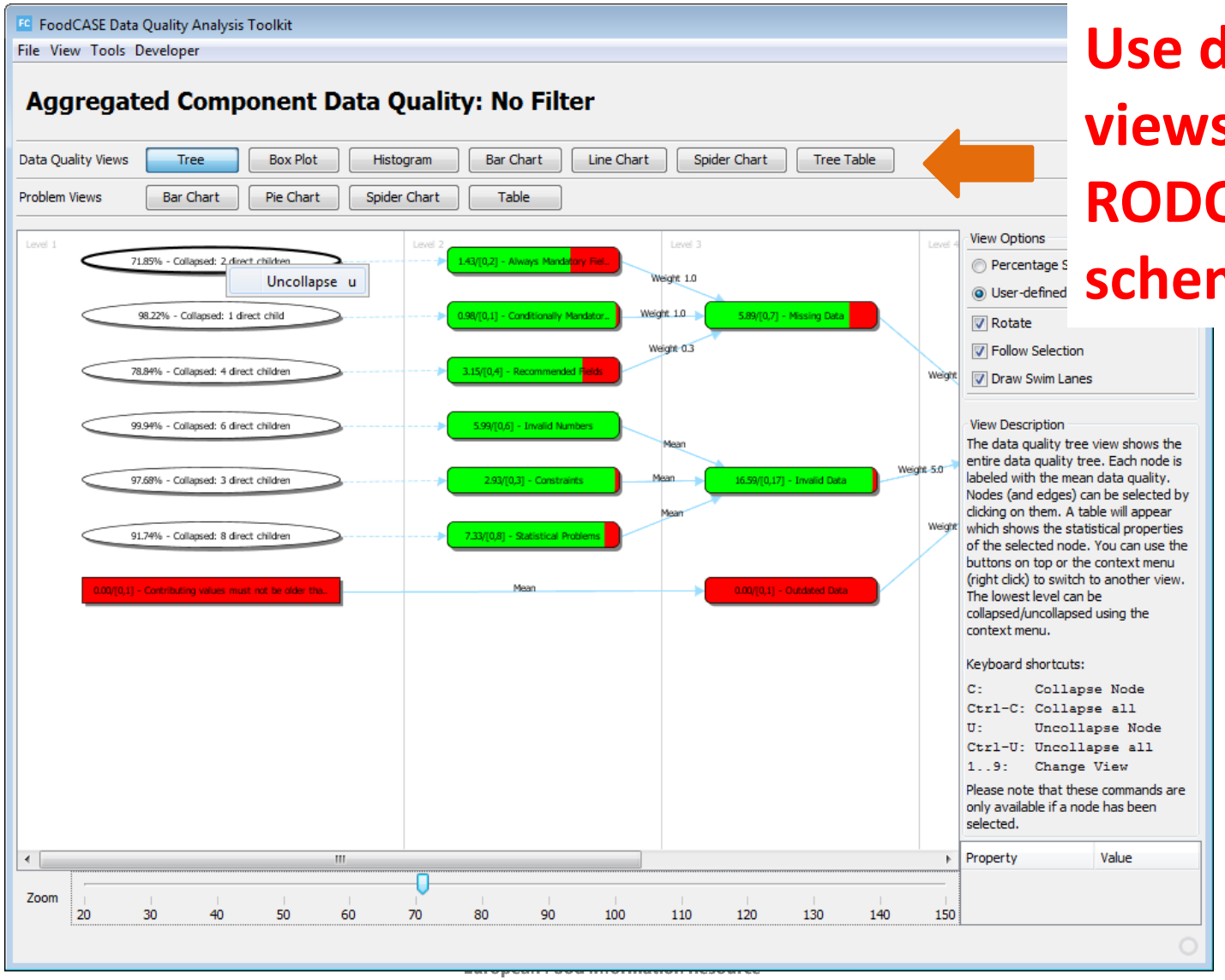
6. Click on Go

RODQ Evaluation



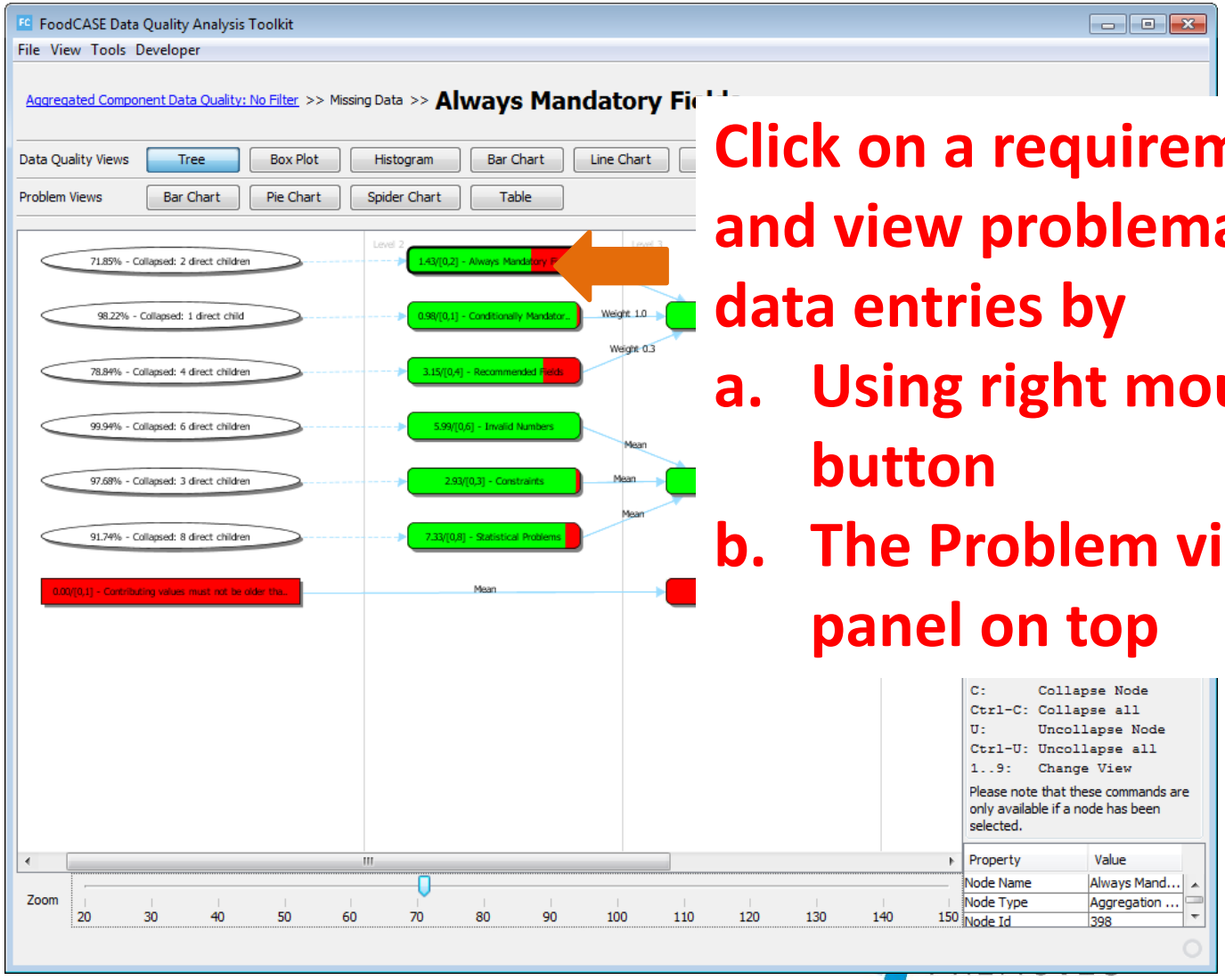
Use and see all descriptions on the right panel.

RODQ Evaluation



Use different views of RODQ schema.

Analyse Details

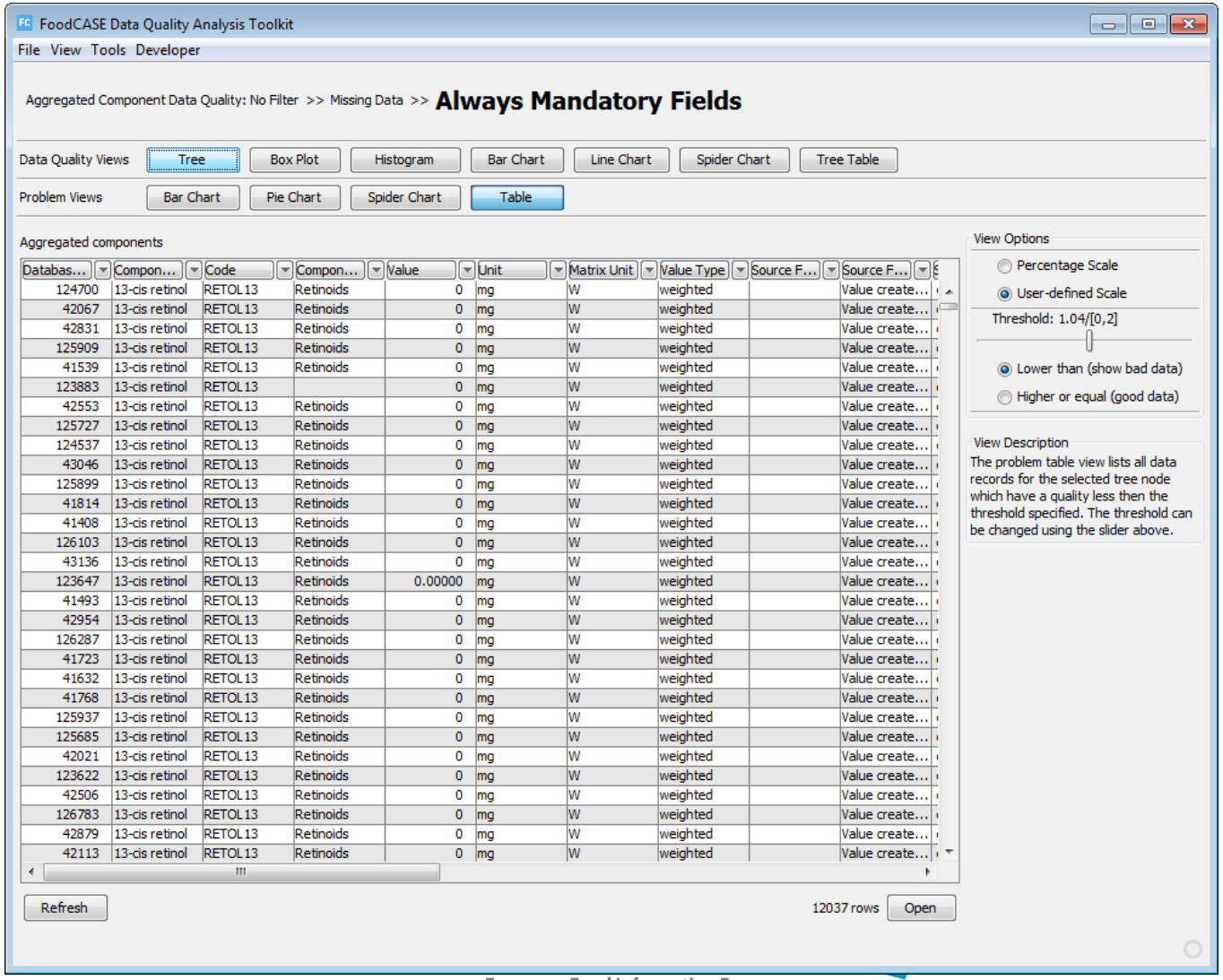


Click on a requirement and view problematic data entries by

a. **Using right mouse button**

b. **The Problem view panel on top**

Analyse Details



See data records that have bad or good data quality.

You can open the data record.

Data Quality Exercise

Exercises

- 4c

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Data Issue Analysis

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Data Issue Analysis

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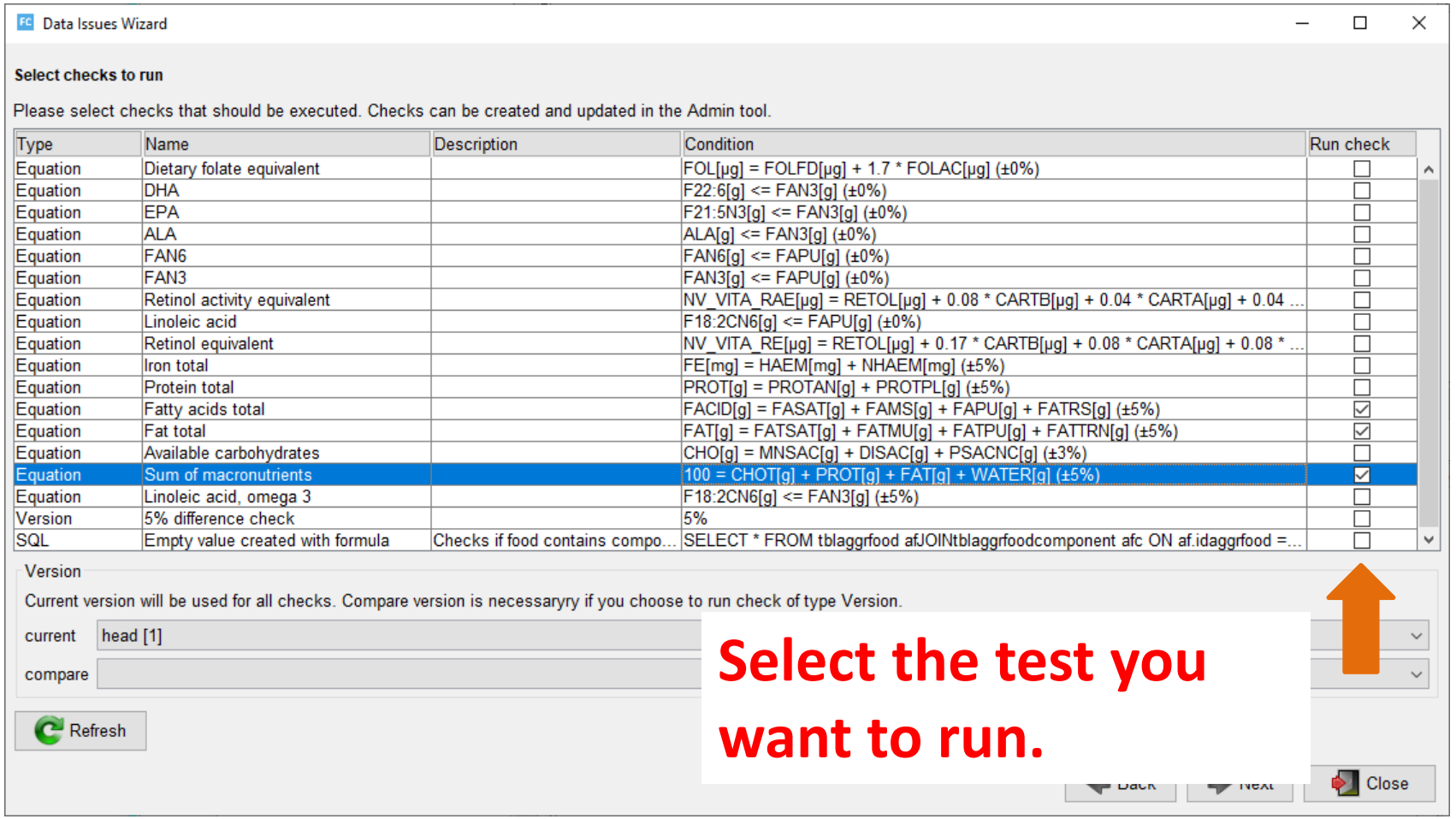
- Check your data with your own tests
- Different types
  - Equation: PROT[g] = PROTAN[g] + PROTPL[g] (±5%)
  - Range: 0[g] < ALC < 30[g]
  - Version: Compare values to former version
  - SQL: User create own SQL queries

FOODCASE



Select the test you want to run.

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Data Issues Wizard

Check Selection

Only checks with issues are listed. Select a check for further inspection.

Type	Name	Description	Condition	#Issues	#Accepted
Equation	Sum of macronutrients		100 = CHOT[g] + PROT[g] + FAT[g] + WATER[g] (±5%)	4	0
Equation	Fatty acids total		FACID[g] = FASAT[g] + FAMS[g] + FAPU[g] + FATRS[g] (±5%)	25	0
Equation	Fat total		FAT[g] = FATSAT[g] + FATMU[g] + FATPU[g] + FATTRN[g] (±5%)	43	0

Refresh | Report | Open

Back | Close

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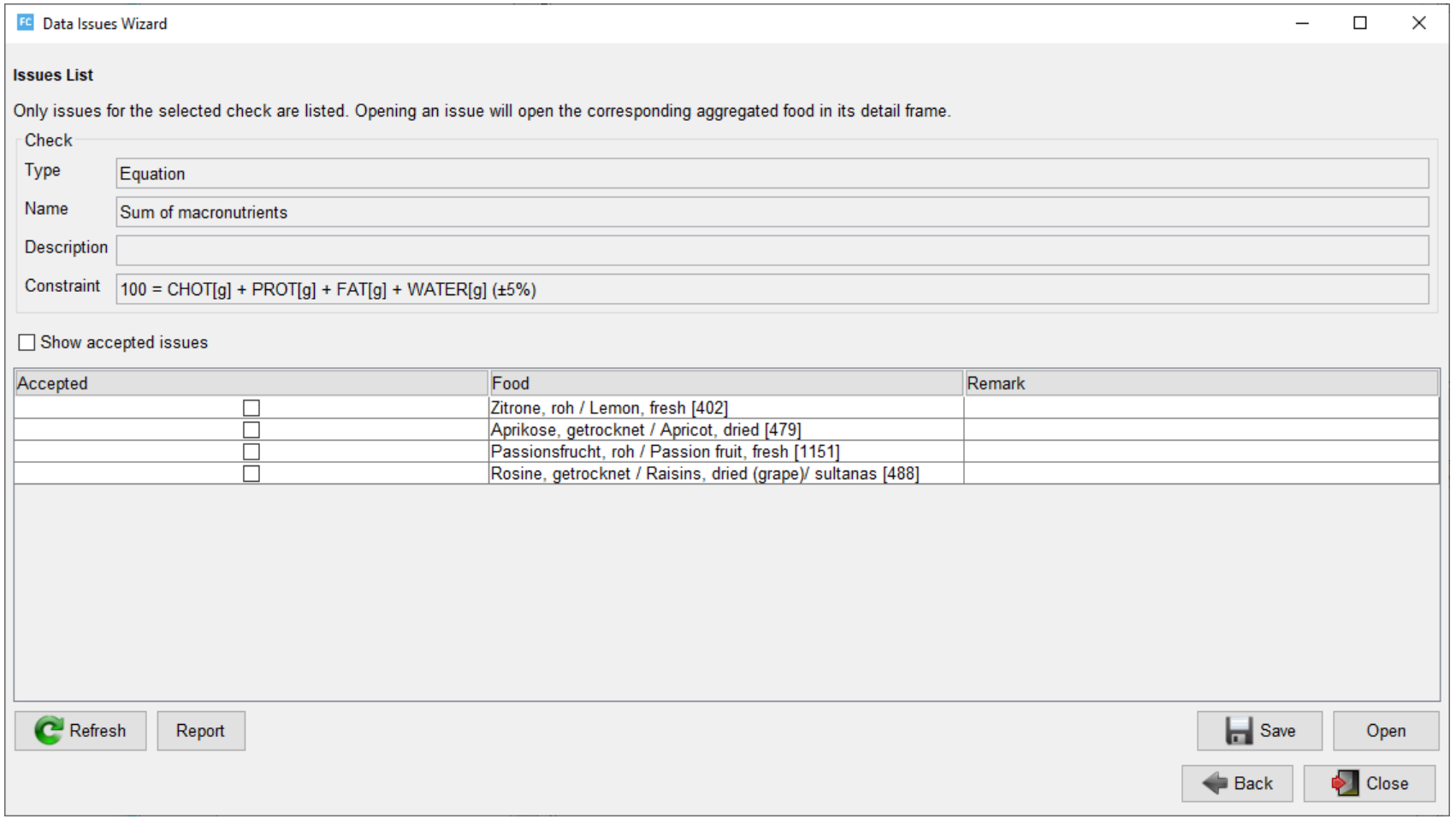
Data Issues Wizard
Issues List
Only issues for the selected check are listed. Opening an issue will open the corresponding aggregated food in its detail frame.
Check
Type
Equation
Name
Sum of macronutrients
Description
Constraint
100 = CHOT[g] + PROT[g] + FAT[g] + WATER[g] (±5%)
Show accepted issues
Accepted
Food
Remark
Zitrone, roh / Lemon, fresh [402]
Aprikose, getrocknet / Apricot, dried [479]
Passionsfrucht, roh / Passion fruit, fresh [1151]
Rosine, getrocknet / Raisins, dried (grape)/ sultanas [488]
Refresh
Report
Save
Open
Back
Close

Exercises

Exercises

- 4d

FOODCASE

Check and Approve Wizard

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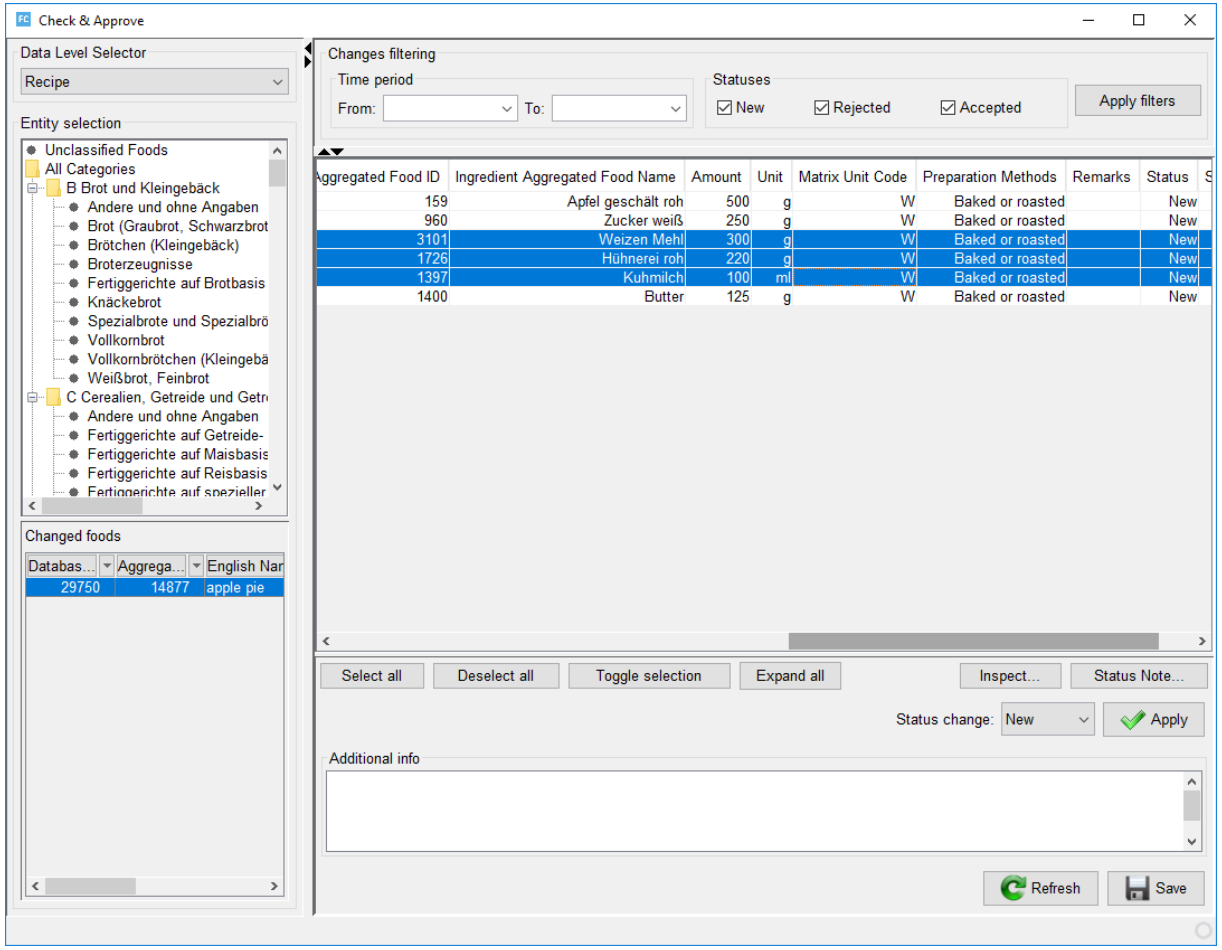
Check and Approve Wizard



- To double check data after their entry or modification
  - Source level: value change
  - Aggregated level: change in aggregation definition except changing source values
  - Recipe level: change in recipe definition
- Every food and value has a status
  - New
  - Accepted
  - Rejected
- Work through wizard until there is no data with status new.

Exercises

Exercises

- 4e

FOODCASE

Bulk Borrow

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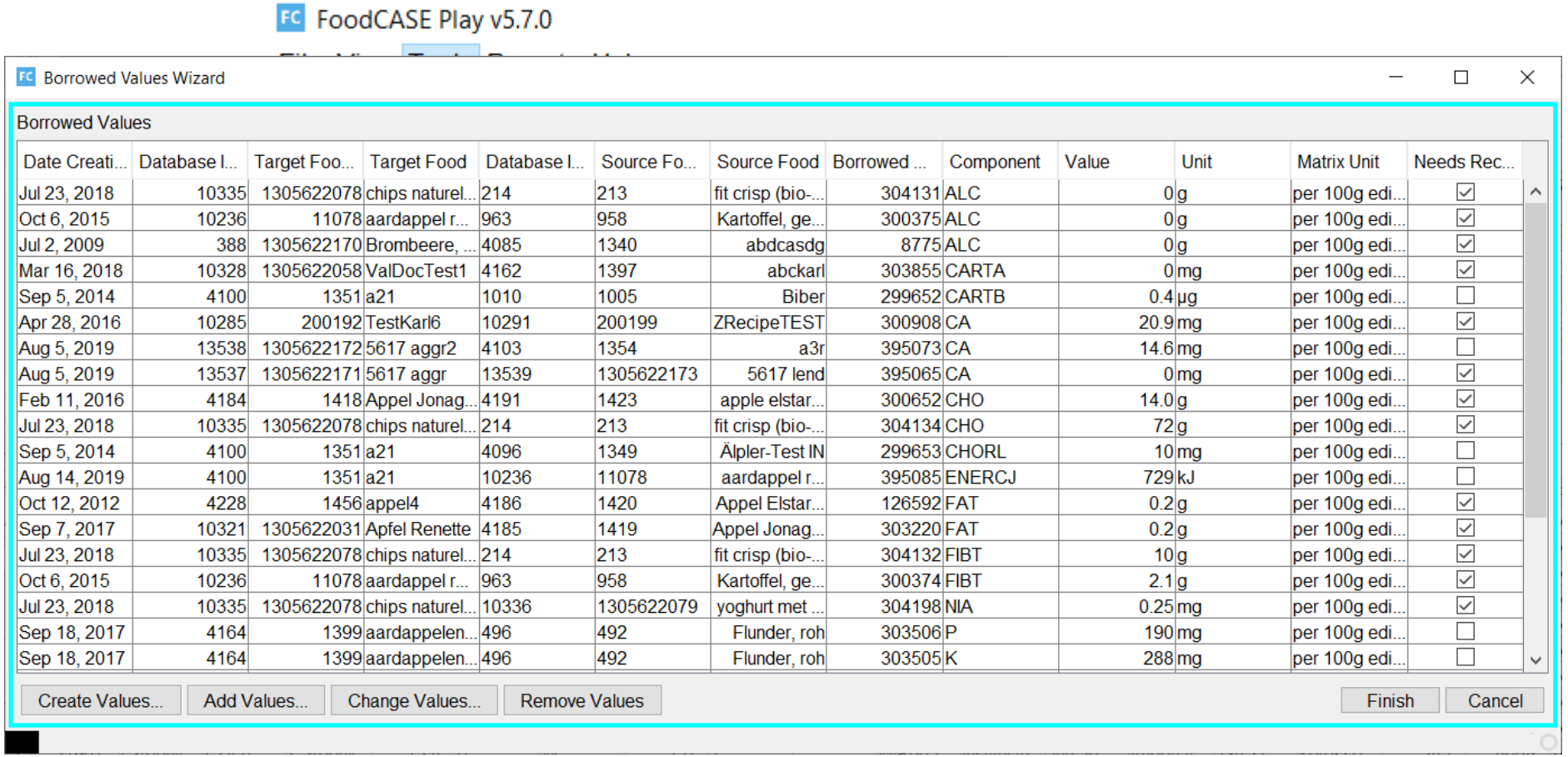
Bulk Borrow

FOODCASE



Date Creati...	Database I...	Target Foo...	Target Food	Database I...	Source Fo...	Source Food	Borrowed ...	Component	Value	Unit	Matrix Unit	Needs Rec...
Jul 23, 2018	10335	1305622078	chips naturel...	214	213	fit crisp (bio-...	304131	ALC	0	g	per 100g edi...	☑
Oct 6, 2015	10236	11078	aardappel r...	963	958	Kartoffel, ge...	300375	ALC	0	g	per 100g edi...	☑
Jul 2, 2009	388	1305622170	Brombeere, ...	4085	1340	abdcasdg	8775	ALC	0	g	per 100g edi...	☑
Mar 16, 2018	10328	1305622058	ValDocTest1	4162	1397	abckarl	303855	CARTA	0	mg	per 100g edi...	☑
Sep 5, 2014	4100	1351	a21	1010	1005	Biber	299652	CARTB	0.4	µg	per 100g edi...	☐
Apr 28, 2016	10285	200192	TestKarl6	10291	200199	ZRecipeTEST	300908	CA	20.9	mg	per 100g edi...	☑
Aug 5, 2019	13538	1305622172	5617 aggr2	4103	1354	a3r	395073	CA	14.6	mg	per 100g edi...	☐
Aug 5, 2019	13537	1305622171	5617 aggr	13539	1305622173	5617 lend	395065	CA	0	mg	per 100g edi...	☑
Feb 11, 2016	4184	1418	Appel Jonag...	4191	1423	apple elstar...	300652	CHO	14.0	g	per 100g edi...	☑
Jul 23, 2018	10335	1305622078	chips naturel...	214	213	fit crisp (bio-...	304134	CHO	72	g	per 100g edi...	☑
Sep 5, 2014	4100	1351	a21	4096	1349	Älpler-Test IN	299653	CHORL	10	mg	per 100g edi...	☐
Aug 14, 2019	4100	1351	a21	10236	11078	aardappel r...	395085	ENERCJ	729	kJ	per 100g edi...	☐
Oct 12, 2012	4228	1456	appel4	4186	1420	Appel Elstar...	126592	FAT	0.2	g	per 100g edi...	☑
Sep 7, 2017	10321	1305622031	Apfel Renette	4185	1419	Appel Jonag...	303220	FAT	0.2	g	per 100g edi...	☑
Jul 23, 2018	10335	1305622078	chips naturel...	214	213	fit crisp (bio-...	304132	FIBT	10	g	per 100g edi...	☑
Oct 6, 2015	10236	11078	aardappel r...	963	958	Kartoffel, ge...	300374	FIBT	2.1	g	per 100g edi...	☑
Jul 23, 2018	10335	1305622078	chips naturel...	10336	1305622079	yoghurt met ...	304198	NIA	0.25	mg	per 100g edi...	☑
Sep 18, 2017	4164	1399	aardappelen...	496	492	Flunder, roh	303506	P	190	mg	per 100g edi...	☐
Sep 18, 2017	4164	1399	aardappelen...	496	492	Flunder, roh	303505	K	288	mg	per 100g edi...	☐

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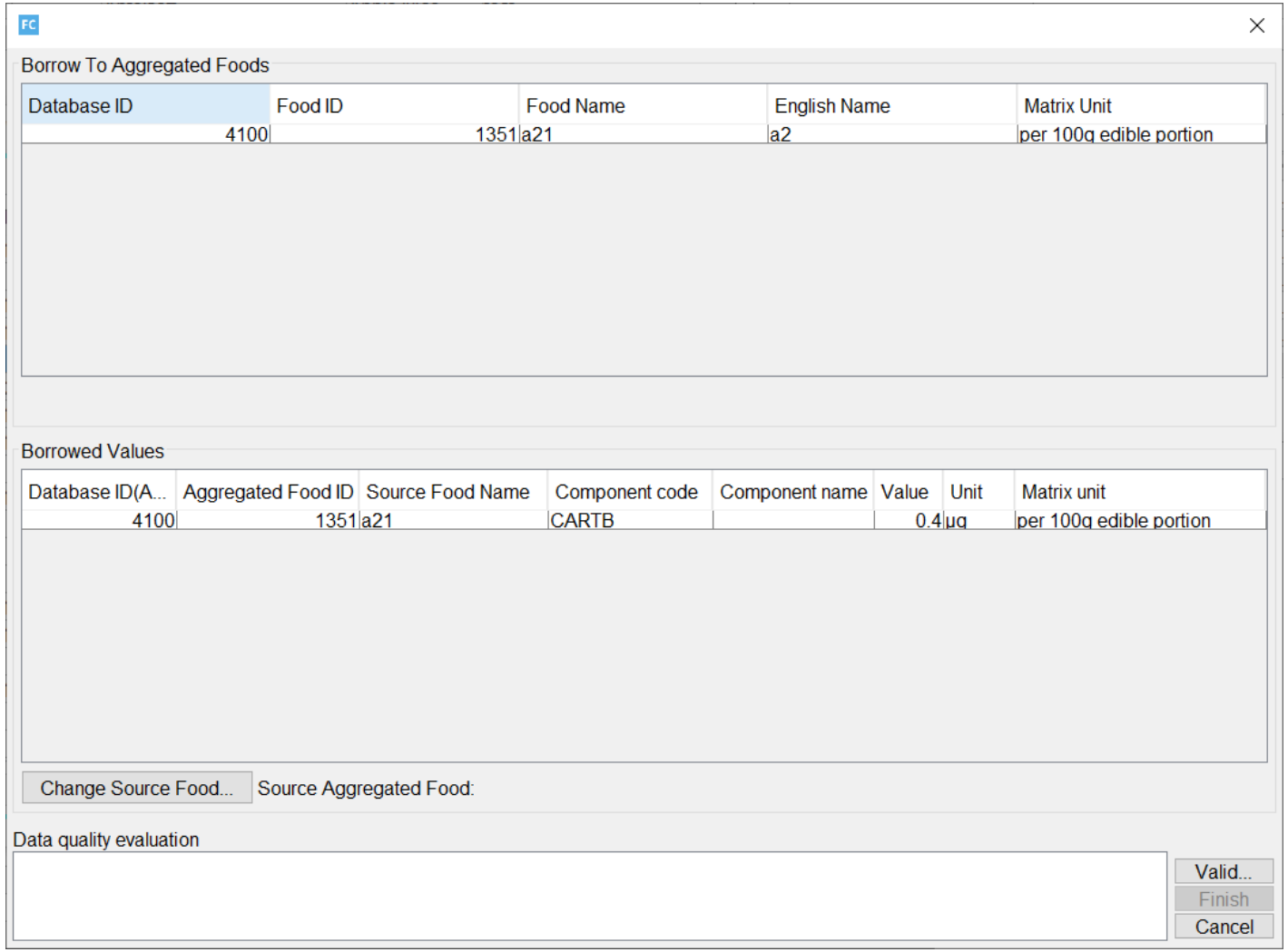
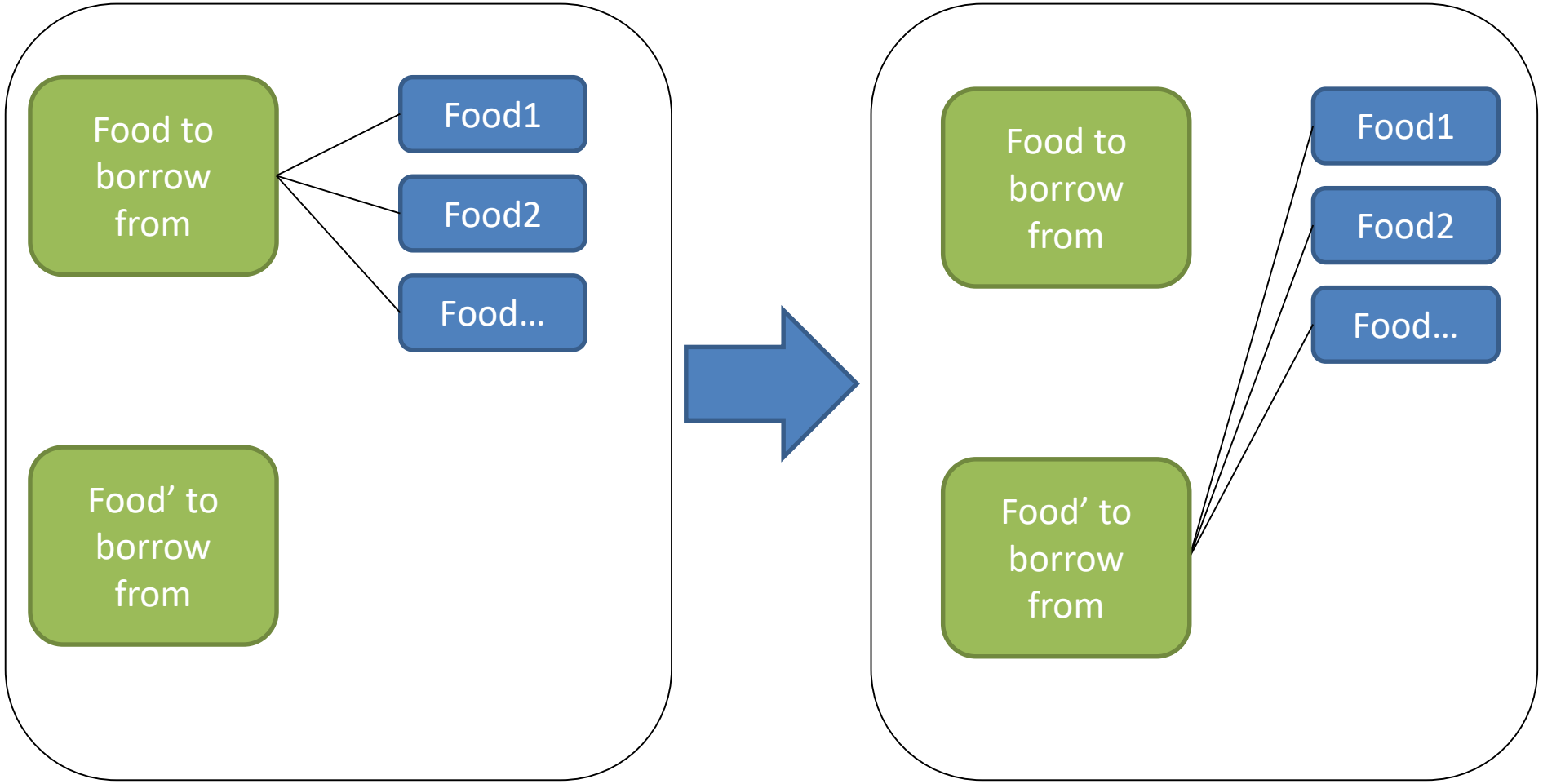
Bulk Borrow


Borrow To Aggregated Foods
Database ID
Food ID
Food Name
English Name
Matrix Unit
4100
1351
a21
a2
per 100g edible portion
Borrowed Values
Database ID(A...
Aggregated Food ID
Source Food Name
Component code
Component name
Value
Unit
Matrix unit
4100
1351
a21
CARTB
0.4
µg
per 100g edible portion
Change Source Food...
Source Aggregated Food:
Data quality evaluation
Valid...
Finish
Cancel

Bulk Borrow


Food to borrow from
Food1
Food2
Food…
Food' to borrow from
Food to borrow from
Food1
Food2
Food…
Food' to borrow from

FOODCASE

Nutrient Estimation Wizard

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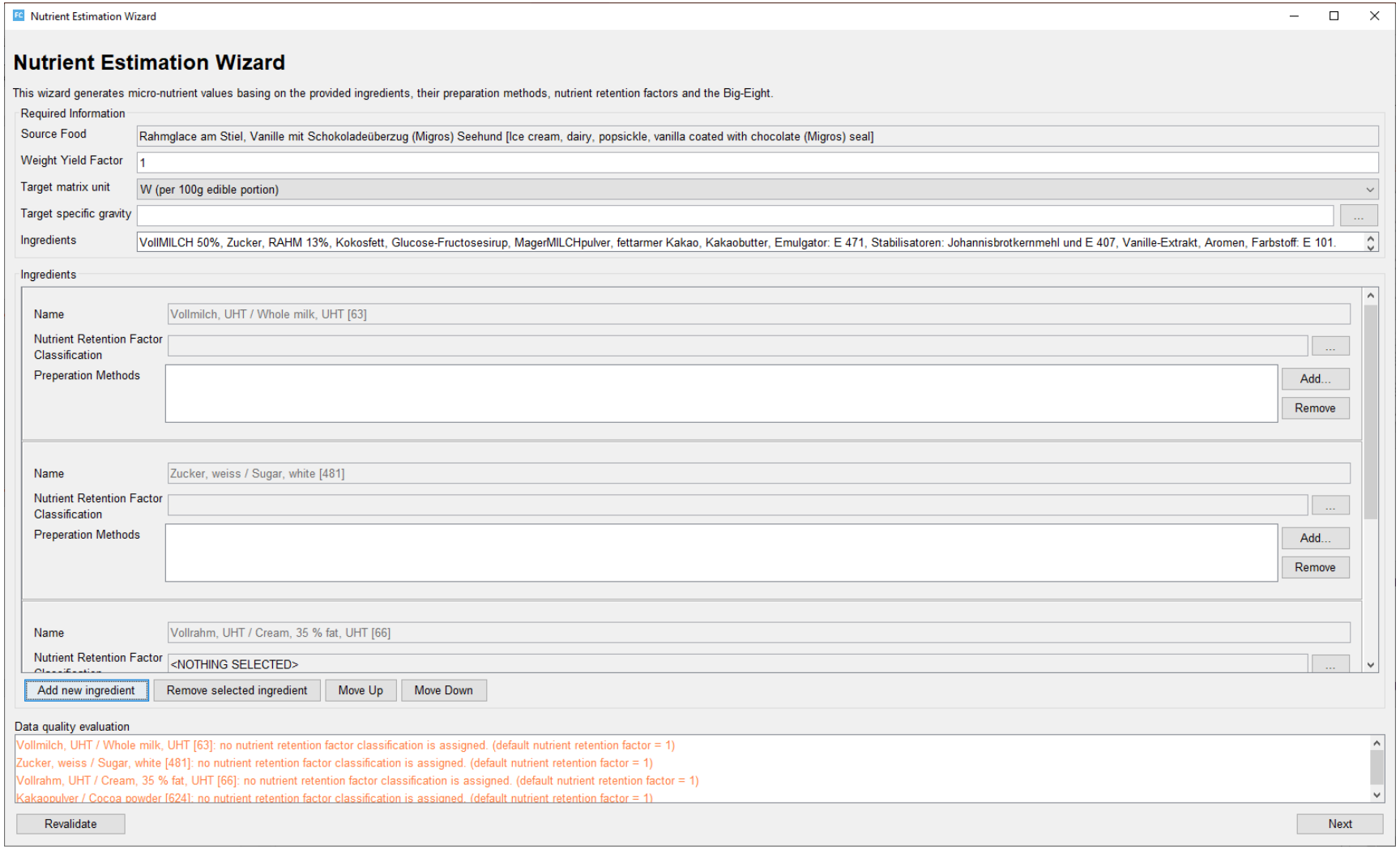
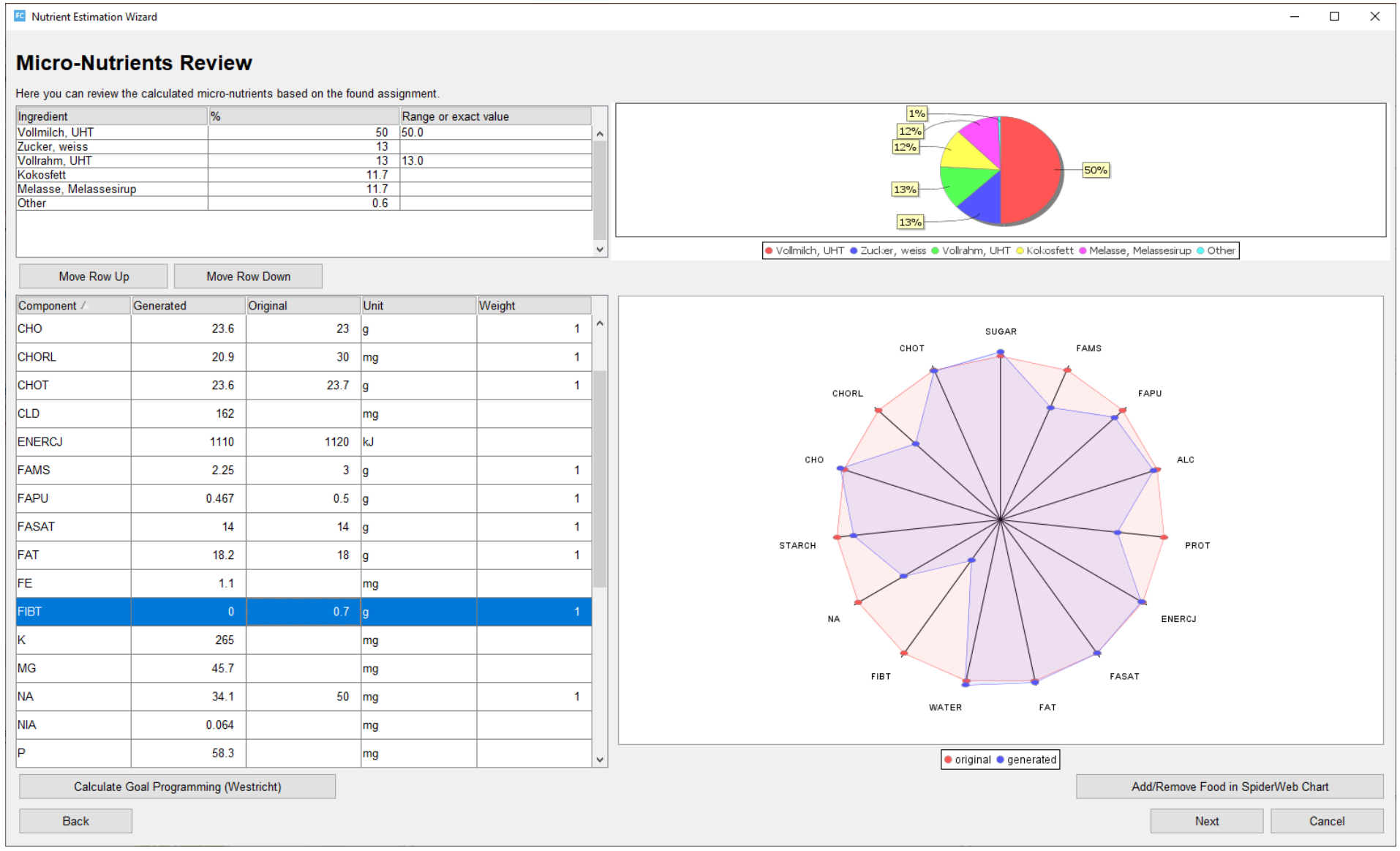
Nutrient Estimation Wizard

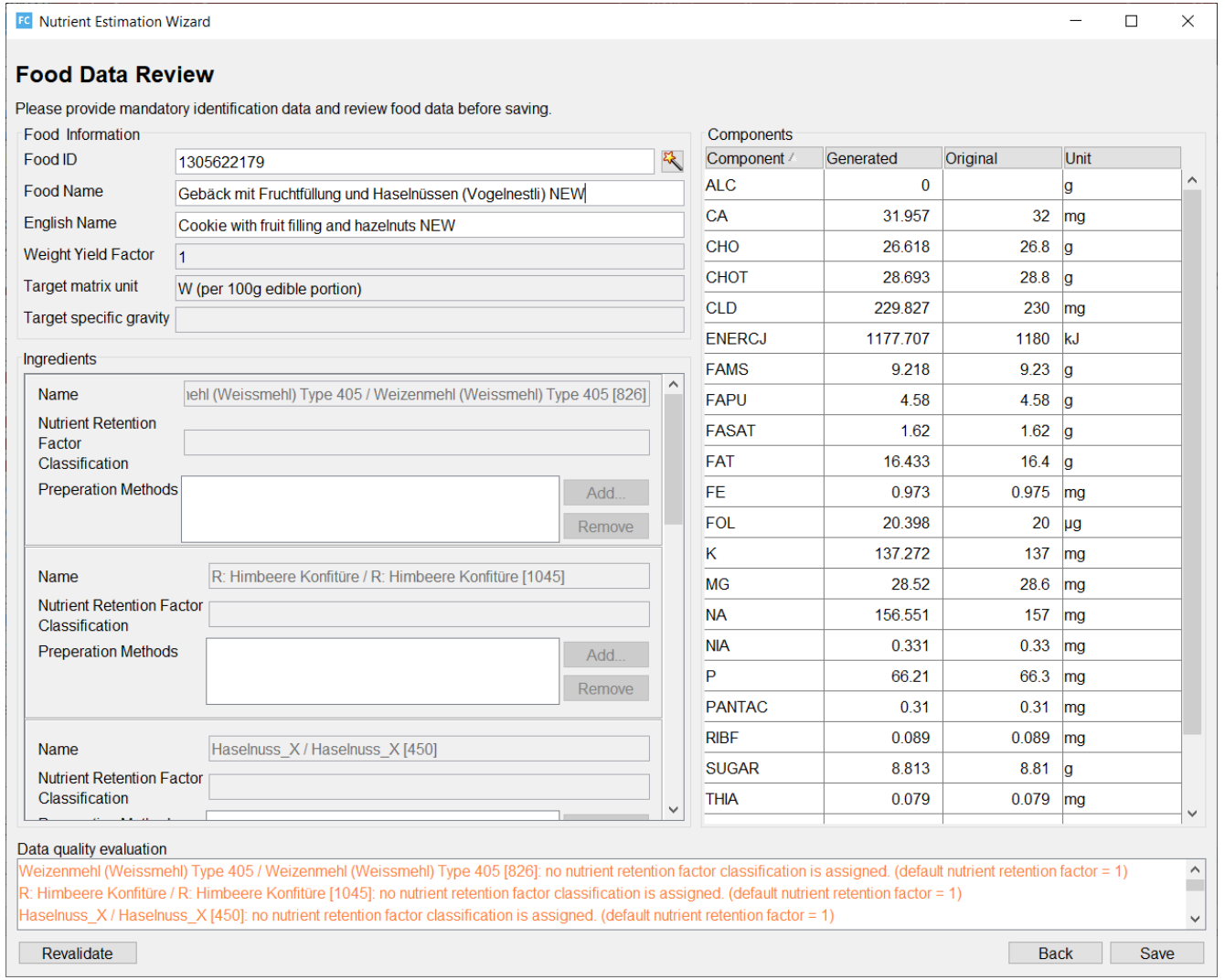


Nutrient Estimation Wizard

FOODCASE



Nutrient Estimation Wizard



Exercises

Exercises

FOODCASE

- 4f
- Pick food:
  - Source Food ID: 159,
  - Name: Ice cream, dairy, popsickle, vanilla coated with chocolate (Migros) seal
  - Please don’t store it because other are also using this example

FOODCASE

Thank you for participation and attention.

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Administrate RODQ Schemas

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The super user/administration can:

- define her/his own requirements

Every user can:

- define her/his own RODQ Schemas

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