Challenges in Food Classification

an Industry Perspective

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Outline

- Why “tailored” food categorisation & key descriptors
- Examples (additives data collection, FACET)
- What industry can contribute
- Conclusion

Current landscape

- Food categories are too broad
- No standardised food categorisation / classification system
- No common terminology, data collection methods, standardised exposure assessment procedures, etc.
- Compatibility ?
- Architecture “localised” (detail) and difficult to adapt / modify

EuroFIR

LANGUAL

EUROCODE 2 Food Coding System

The classification system for recording food consumption data

…. *target food categories and sub-categories* with appropriate level of detail (descriptors/facets) and populated with chemical concentration ranges would provide more realistic exposure data*

** Likely technological use or formation of the chemical in targeted foods*

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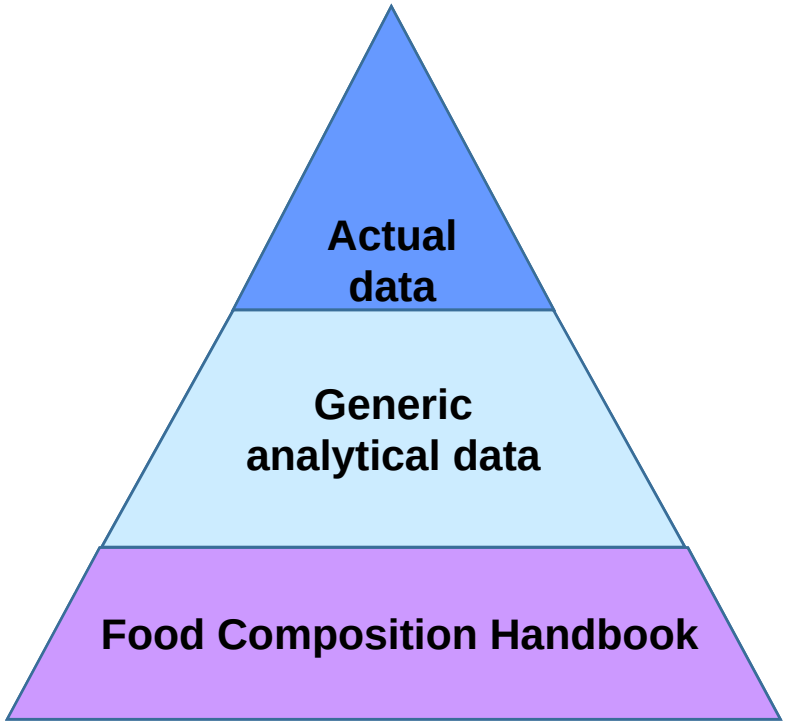
Occurrence data
Sources

- Food label databases
- Food additives databases
- Industry: Federations/ Sectors (voluntary data)
- Label data on pack



Precision of the label data ?
- tolerances
- averages

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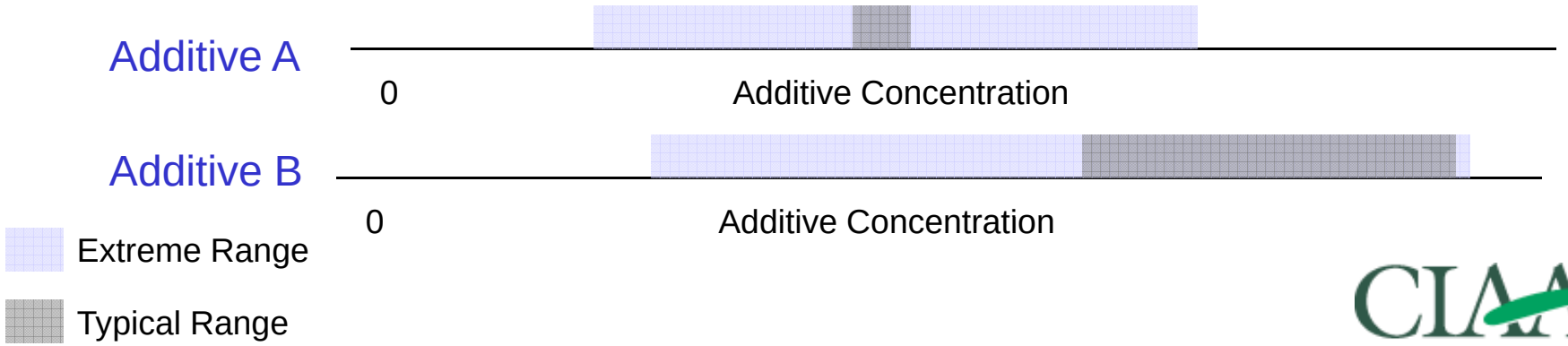
Additive Concentration Data

Exercise to follow up the 2001 EC report on food additive dietary intake at EU level- Refinement of Tier 3 Additives.

Food industry is providing information on current additive concentration usage levels

Values provided follow a « double-range » approach – typical and extreme concentration range in those food categories as listed in the current legislation

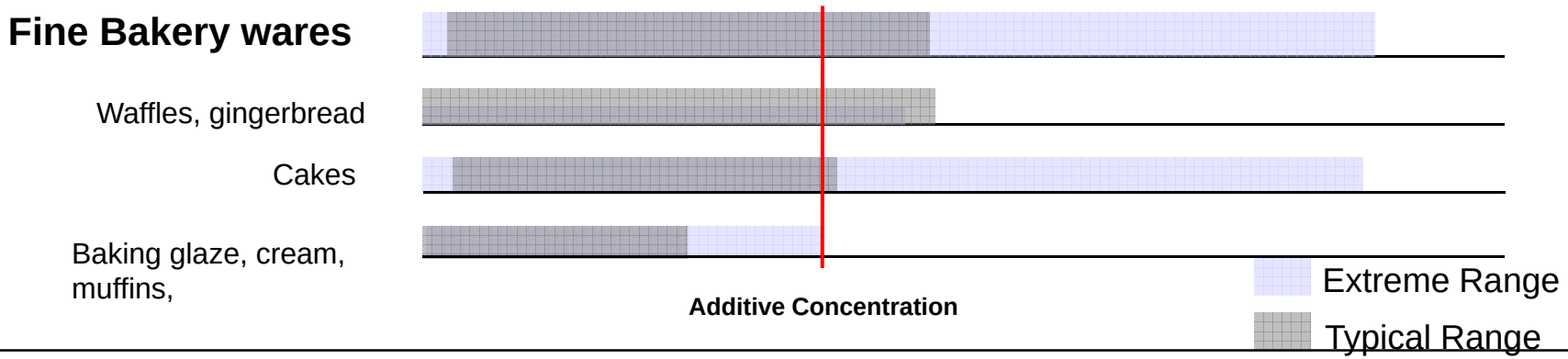
Example for a given food category (e.g. Fine bakery wares)



Additive Concentration Data

Refinement of information – splitting of categories – increased accuracy

Example for a given additive and food category (e.g. Fine bakery wares)



e.g. The <u>extreme additive concentration</u> currently used in muffins is <u>lower</u> than the <u>typical concentration</u> of the over-category "*Fine Bakery Wares*"

Any additive exposure assessment to be performed with less refined food categories would result in overestimated values

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How to deliver a sustainable surveillance system to estimate target food chemical intake

- *Food Additives*
- *Food Flavourings*
- *Food contact material substances*

facet

7th Framework project

- Harmonised food groupings for estimating exposure to food chemicals
- Regional model – extrapolate to other EU countries not represented in FACET
- Sustainable software programme for exposure estimations and a sustainable practice for data collection
- **More realistic exposure estimates** as:
  - concentration data (usage levels)
  - occurrence data collected on food chemicals per food group

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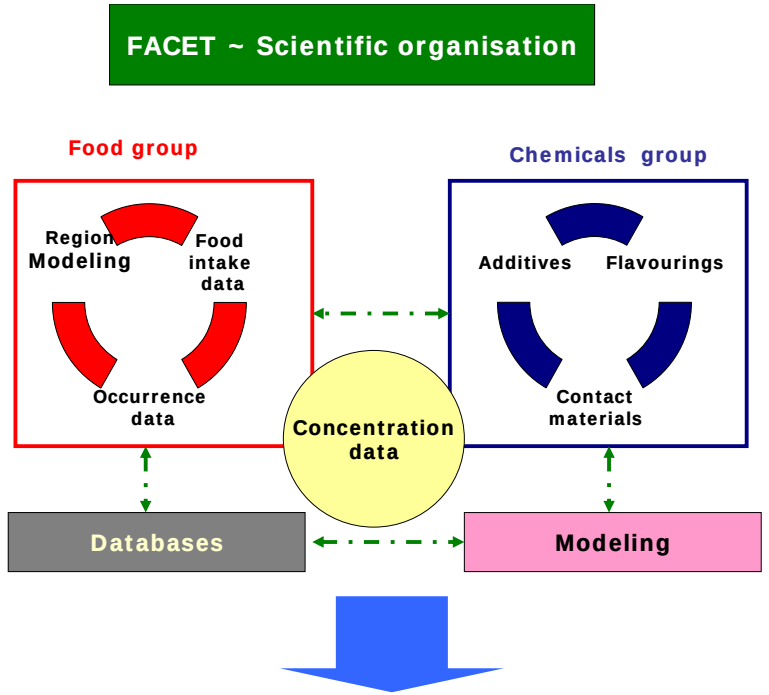
List of food groups: common tier (TIER 0)

1. Dairy products and analogues
2. Fats and oils and fat emulsions
3. Fruits, nuts and seeds
4. Vegetables, starchy roots, legumes and seaweeds
5. Chocolate products and confectionery
6. Cereals and cereal products
7. Breads and bakery wares
8. Meat and meat products
9. Fish and fish products, molluscs, crustaceans and echinoderms
10. Eggs and egg products
11. Sweeteners and honey
12. Salt, spices, herbs, industrial sauces and soups
13. Foodstuffs intended for particular nutritional uses
14. Non alcoholic beverages (except dairy beverages)
15. Alcoholic beverages
16. Ready to eat savouries
17. Desserts (except bakery and fruit desserts)
18. Composite and take away food



Different FACET Groups –
Different food grouping requirements

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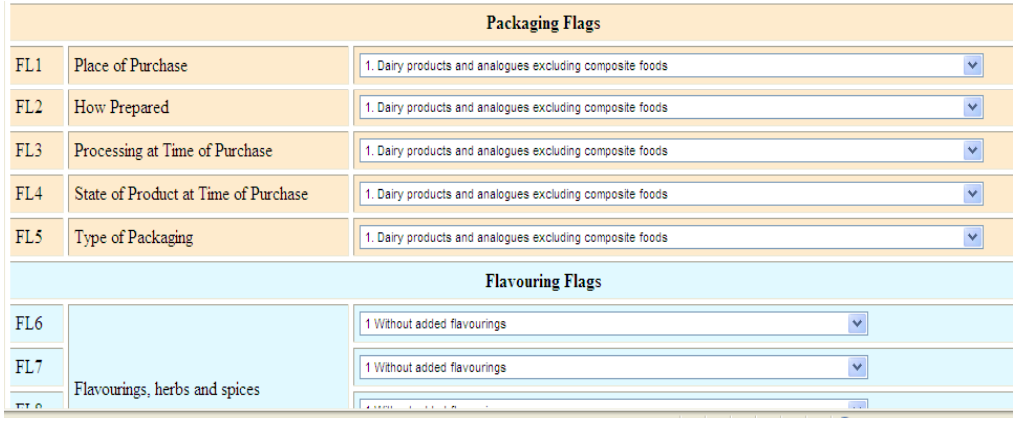
FACET will take into account the descriptive properties of food items

18 Flags

1	Place of purchase
2	How prepared
3	Processing at time of purchase
4	State of product at time of purchase
5	Type of packaging
6-9	Flavourings, herbs and spices
10-12	Nutritional information
13-15	Topping (syrup, sauces)
16	Coating
17-18	Fillings

The Flags will provide extra information relating to food items
To each food a flag/flags will be assigned (if appropriate) via the FACET web interface

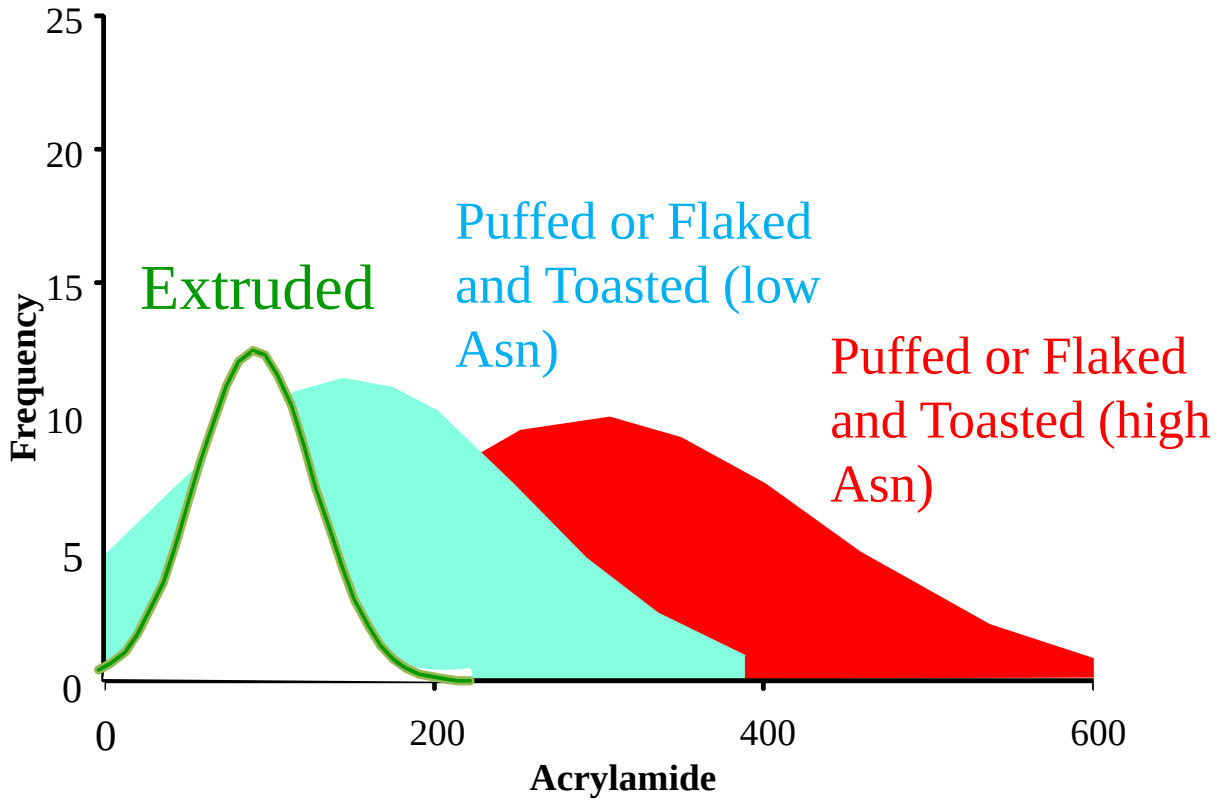


Importance of descriptors

EXAMPLE: acrylamide in breakfast cereals

Probability of acrylamide formation	Descriptor	Product Examples	Rationale
High	Toasted, gun puffed, oven baked cereals from wheat, rye and/or oat (at least 25%), bran from wheat, rye & oat, wheat germ	Toasted wheat flakes, gun puffed products	Asn ↑ Temp ↑
Medium-High	Toasted, gun puffed, oven baked cereals from all grains except wheat, rye and/or oat (less than 25% wheat and/or rye)	Toasted corn flakes	Asn ↓ Temp ↑
Medium	Extruded cereals from all grains Crunchy muesli	a) Extruded foam like cereal shapes, coated b) Crunchy muesli	Asn ↑ Temp ↓
Low	Mild heat treated cereals from all grains	Muesli	Thermal treatment too low for acrylamide formation

- *Toasted cereals are mainly flaked or shredded and exhibit typical grain toasting aroma. Such cereals can be coated or can have other shapes .*
- *Puffed cereals have typically a foam-like structure. They May have any shape and are typically coated. "rice crispies*


25
20
15
10
5
0
Frequency
Extruded
Puffed or Flaked and Toasted (low Asn)
Puffed or Flaked and Toasted (high Asn)
0
200
400
600
Acrylamide

Industry contribution to exposure assessment (1)

- Collect concentration data as data ranges and specify whether the info is representative or less representative
- Share information on:
  - Typical national consumption pattern
  - Consumer trends
  - Indicate whether products are eaten seasonal, occasionally, long-term
  - Typical consumers, if available
  - Typical applications (single ingredient, mixtures, etc)

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Industry contribution to exposure assessment (2)

- Provide tailor-made information in relation to:
  - Environmental contaminants
  - Process contaminants
  - Additives
  - Others?

Provide partnership in the development of food (sub)-categorisation with EFSA (knowledge on processes, recipes, material source, etc.)

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Conclusion

- Best possible food description is a key element to assess consumption
- Accurate food description is THE key element to estimate occurrence of chemicals

Ideally food consumption descriptors should match occurrence descriptors

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