

Updating and expanding the Food Composition Table for Western Africa

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on behalf of

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**Food and Agriculture
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Updating the Food Composition Table for Western Africa: Why update the table?

- The West African Food Composition Table was first published in 2010, and updated in 2012.
- The 2012 version contains:
 - 472 foods (approx. 2/3 raw and 1/3 cooked foods), 28 components.
- Limitations:
 - Missing many foods commonly consumed in West Africa.
 - Has ~500 missing values (out of 15,000) where no nutrient data was available.
- For the update, the project team comprises FAO and INFOODS food composition experts from **Benin, Burkina Faso, Cameroon, Ghana, Mali, Nigeria** and **South Africa**.



Updating the Food Composition Table for Western Africa: What's new?

- Addition of 100+ new raw foods.
- New components:
 - Phytate
 - Essential fatty acids:
 - alpha-linolenic acid (F18D3N3)
 - linoleic acid (F18D2CN6)
 - Fatty acid fractions:
 - saturated fat (FASAT); monounsaturated fat (FAMS); polyunsaturated fat (FAPU)
 - Cholesterol
- Inclusion of commonly consumed mixed dishes.
- Inclusion of fortified staple foods.
- Foods coded with FoodEx2



Updating the Food Composition Table for Western Africa: Identifying new foods to add

- Determine missing foods.
 - >1000 foods identified by the project group through food consumption data, experiences in using 2012 version and projects:
 - Included basic foods, simple recipes and common mixed dishes.
 - Developed priority list of basic foods recognized as missing in 2 or more countries:
 - Approx 130 foods to add to the FCT for Western Africa.
- New foods added where there is sufficient data.



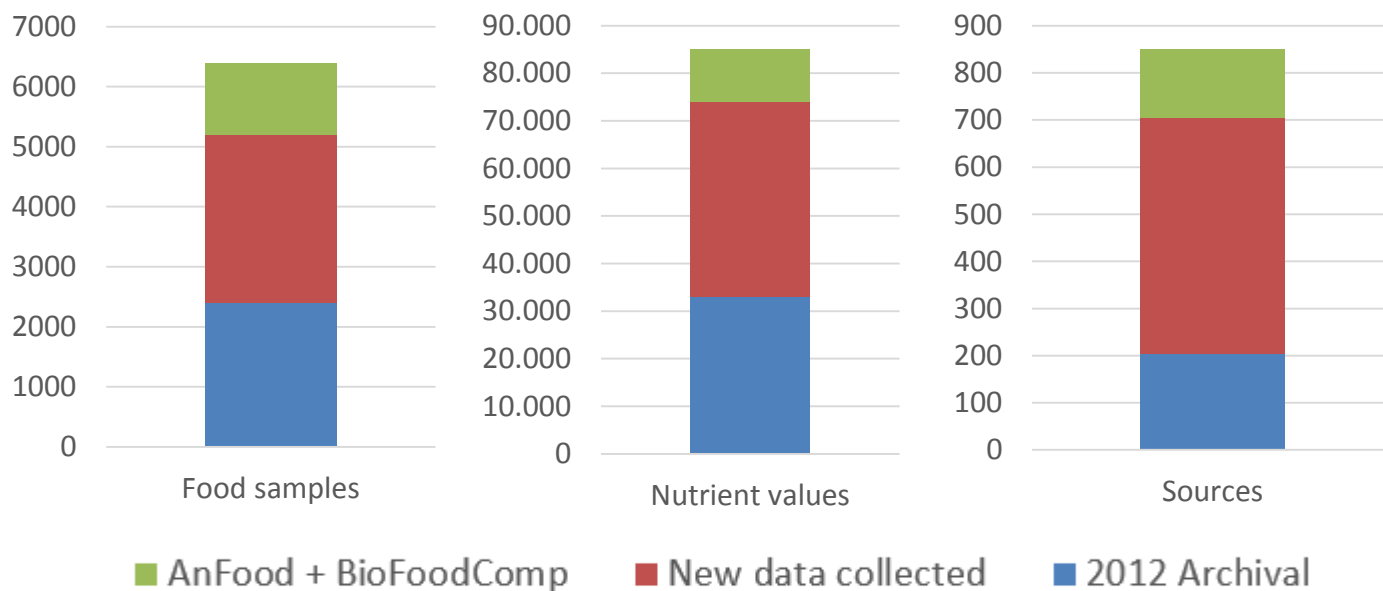
Updating the Food Composition Table for Western Africa: Data collection for archival database

- Data collected for priority missing foods and existing foods in **Benin, Burkina Faso, Cameroon, Ghana, Mali and Nigeria:**
 - Data collected from **South Africa** to fill previous data gaps.
 - Data all analytical – not borrowed from international tables, estimated from other sources.
 - Emphasis on laboratories and “unpublished” data:
 - Data collectors visited laboratories, university departments and research institutes to search for not-easily-accessible data.
 - Data compiled for each country, reviewed by national supervisor:
 - Modified INFOODS Compilation Tool.
 - Copies of all data sources sent to FAO store with the database.
- Included data from FAO/INFOODS publications AnFoodComp and BioFoodComp



Updating the Food Composition Table for Western Africa: Data collection for archival database

- 41,000 data points for 2,800 food samples from 500 references (Jan – Dec 2016).
- Scrutinized according to FAO/INFOODS guidelines.



Updating the Food Composition Table for Western Africa: Challenges in collection and compilation

- Data collection was quite demanding: time, energy, and mentally.
- Electricity challenges and network connectivity.
- Inaccessibility of some journal articles.
- Difficulties in downloading and attaching referenced materials.
- Poor sharing of data by researchers and research institutions.
- Some local projects were found to have generated data that have not been published, however, some were poorly documented.
- There was generally insufficient understanding of how to generate, present and compile food composition data.

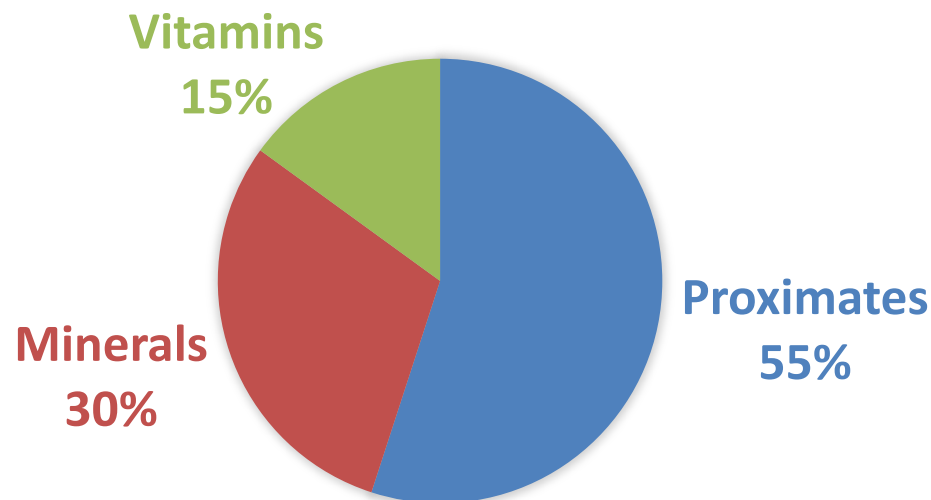


Updating the Food Composition Table for Western Africa: Challenges in collection and compilation

- Approximately 50% of data found were not compiled:
 - No or unclear basis reported (dry matter or wet basis).
 - Unclear or insufficient food descriptions:
 - Edible portion – viscera, skin, bones, part of plant.
 - Description of the food – colour, maturity.
 - Particular problems with Vitamin A:
 - Retinol Equivalents vs Retinol Activity Equivalents.
 - Confusion between carotenes with vitamin A activity and total carotenes.
 - Implausible values.



Updating the Food Composition Table for Western Africa: Challenges in collection and compilation



- Fibre is mostly crude.
- Lack of Se and I data.
- There remains a lack of good quality vitamin data.



Updating the Food Composition Table for Western Africa: Mixed dishes

- Challenge: no data on yield factors for mixed dishes.
- >150 recipes collected to be included in the FCT:
 - Burkina Faso
 - Developed a list of commonly consumed mixed dishes from missing foods list.
 - Recipes recorded in the field, and yield factors measured in the lab or in the field.
 - Nigeria
 - Recipes were collected from food consumption surveys, internet, and local recipe books.
 - These dishes were then prepared, to determine total yield after preparation.



Updating the Food Composition Table for Western Africa: Data gaps & reference datasets

- Challenge: Data gaps, in particular for:
 - Vitamins
 - Dietary fibre
 - Fatty acid classes, essential fatty acids
- Reference data set for comparison and gap filling:
 - National databases from Australia, India, UK, USA and ZA.
 - Global databases from FAO/INFOODS:
 - FAO/INFOODS Global Database for Pulses (uPulses).
 - FAO/INFOODS Global Food Composition Database for Fish and Shellfish (uFish).
- Data from outside of Africa are highlighted to show where African data gaps remain.



Updating the Food Composition Table for Western Africa: Fortified staples

- Challenge: how to include fortified foods?
- Limited analytical data on fortification levels.
- Conducted review of fortification standards.

	Fe	Zn	Folic acid	Vit A	Vit D	B1	B2	B3	B6	B12
Wheat flour	✓	✓	✓	✓		✓	✓	✓	✓	✓
Maize flour	✓		✓	✓						
Vegetable oil				✓						
Margarine*				✓	✓					
Sugar*				✓						

*Nigeria only



Updating the Food Composition Table for Western Africa: Analytical program for new foods

- Challenge: lack of analytical data and/or retention factors for fermented grain foods:
 - e.g. tô, ogi, fura, kenkey, hausa kooko.
- Fermented foods analytical program in Ghana:
 - 6 grains from Accra region, 7 fermented products.
 - Analysed raw grains and fermented products.
 - Will determine retention factors for nutrient changes during processing.



Updating the Food Composition Table for Western Africa: Achievements

- Collected only analytical data:
 - Worked hard to visit labs, universities, find analytical data
- Were able to dedicate more resources and time:
 - Analytical program for fermented foods.
 - Specific work on yield factors for recipes.
- New analytical reference data.
- Benefited from INFOODS guidelines:
 - FAO/INFOODS Guidelines for Checking Food Composition Data prior to Publication of a User Table/Database - Version 1.0 (2012)
 - FAO/INFOODS Guidelines for Food Matching - Version 1.2 (2012)
 - FAO/INFOODS Guidelines for Converting Units, Denominators and Expressions Version 1.0 (2012)



Updating the Food Composition Table for Western Africa: Synergies with country Food Composition Tables

- Updating the FCT for Western Africa was concurrent with development of some country specific FCTs in West Africa:
 - Missing food lists were used for both the FCT for Western Africa and the country teams to compile their database.
 - There was opportunity to share compiled data.
 - Practical work to improve capacity in food composition.
- The WAFCT has served and will continue to serve as a reference for many FCTs in Africa.



Updating the Food Composition Table for Western Africa: Conclusion

- The updated FCT for Western Africa includes:
 - Additional components: phytate and cholesterol, fatty acid fractions and essential fatty acids.
 - Commonly consumed mixed dishes.
 - Fortified foods.
 - Fermented foods.
 - Data from outside Africa highlighted to make users and researchers aware of the remaining data gaps.
- Data will be available, free of charge:
 - All the individual food sample level data will be published in FAO/INFOODS BioFoodComp and AnFoodComp.
 - Compiled table will be published 2018.



Updating the Food Composition Table for Western Africa

Collaboration & Funding disclosure

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Updating the Food Composition Table for Western Africa

Thank you!

Questions?

