



GULFOOD

“Introduction to Health Problems Worlwide.”

Presentation of Nutriose soluble fiber and Nutralys Pea Protein solutions

Philippe FOULER
Roquette

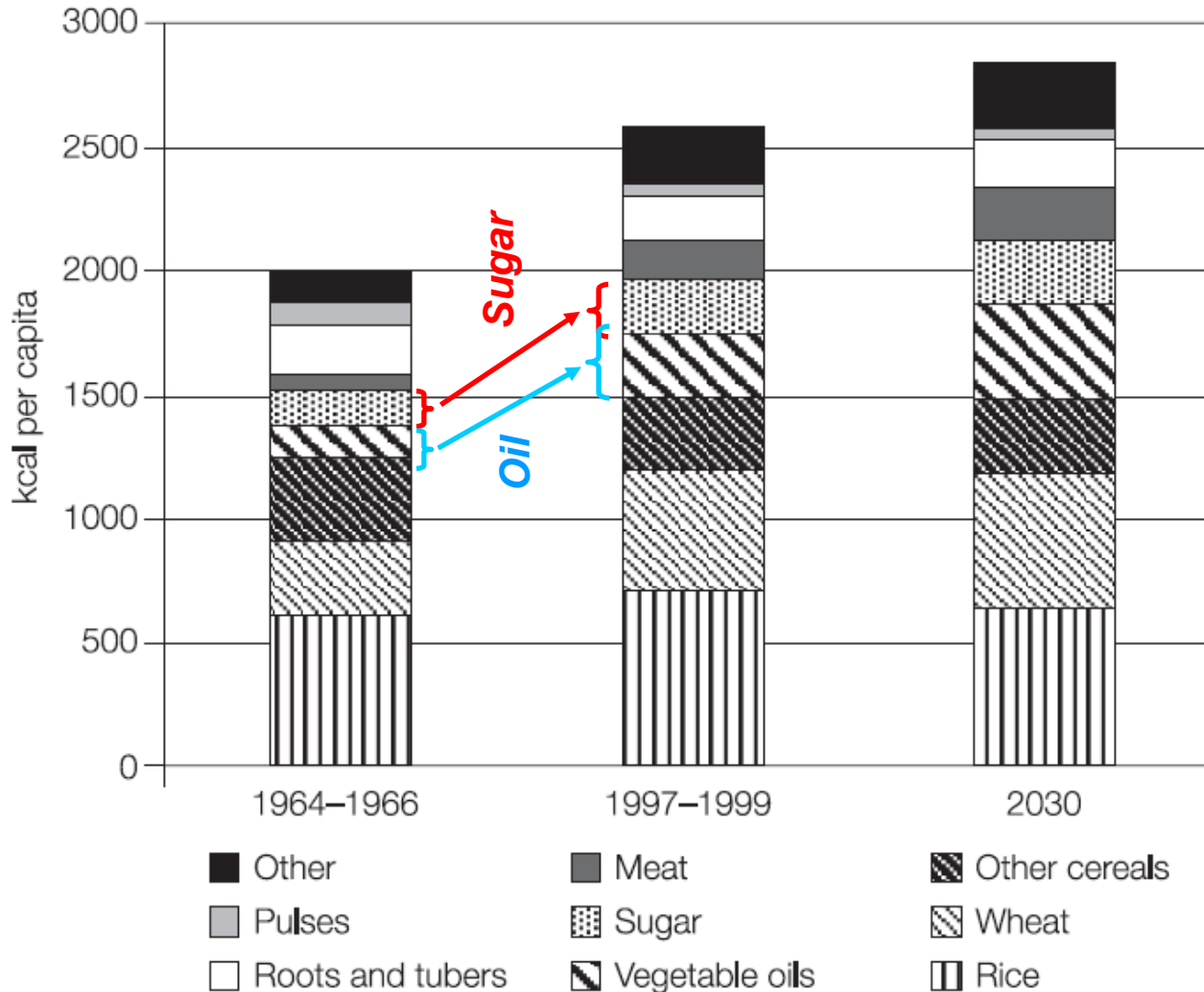
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Trend of Dietary Energy Consumption

Calories from major commodities in developing countries



Trend

**Sugars
Fat**



Proteins



**Nutrient intake
and diet-related
chronic diseases**

Diet-related chronic diseases

Obesity

Diabetes

Cardiovascular diseases

Cancer

Dental diseases

Osteoporosis

Dietary intakes recommendations to prevent chronic diseases

Recommendations

This report contains the collective views of an international group of experts and does not necessarily represent the decisions or the stated policy of the World Health Organization or of the Food and Agriculture Organization of the United Nations

WHO Technical Report Series

916

DIET, NUTRITION AND THE PREVENTION OF CHRONIC DISEASES



Ranges of Population nutrient intake goals (Page 56, Table 6)

Report of a
Joint WHO/FAO Expert Consultation



World Health Organization
Geneva 2003

Nutrients	% of total Energy	Quantity* (g)
Carbohydrates	55-65	330-390
Sugars	10 (max)	60
Fat	15-30	40-80
Proteins	10-15	60-90

* Reference calorie 2400 kcal

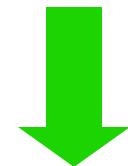
Objectives

Sugars

Fat

Proteins

Dietary Fibres



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Confectionery

Chocolate confectionery

Products	Sugars (%)
Dark Chocolate	35-50
Milk Chocolate	45-60
Chocolate bar	40-50
Wafer chocolates	28-40
Assorted Chocolate bars	50-55



Sugar & Gum Confectionery

Products	Sugars (%)
Chewing Gum	0 (sugar-free)
Bubble gum	60-75
Fruit Jellies	30-40
Boiled Sweets	85-98
Mint Tablets	93-98
Fruit candy Sticks	50
Toffees (Eclairs)	40-60



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Sugar Alternatives

Expected properties of sugar alternatives

Low calorie

Sugar free

Natural sweetener

Additional functionality (Fiber, Prebiotic etc...)

Taste like sugar

Safe

Stability

Odd flavor

Interactions with other ingredients

Digestive tolerance

Intense sweeteners

Bulk sweeteners

*Bulk sweeteners +
Intense sweeteners*

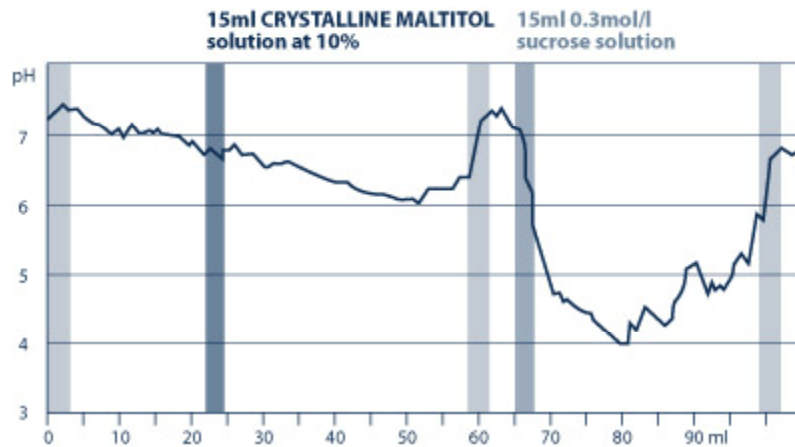
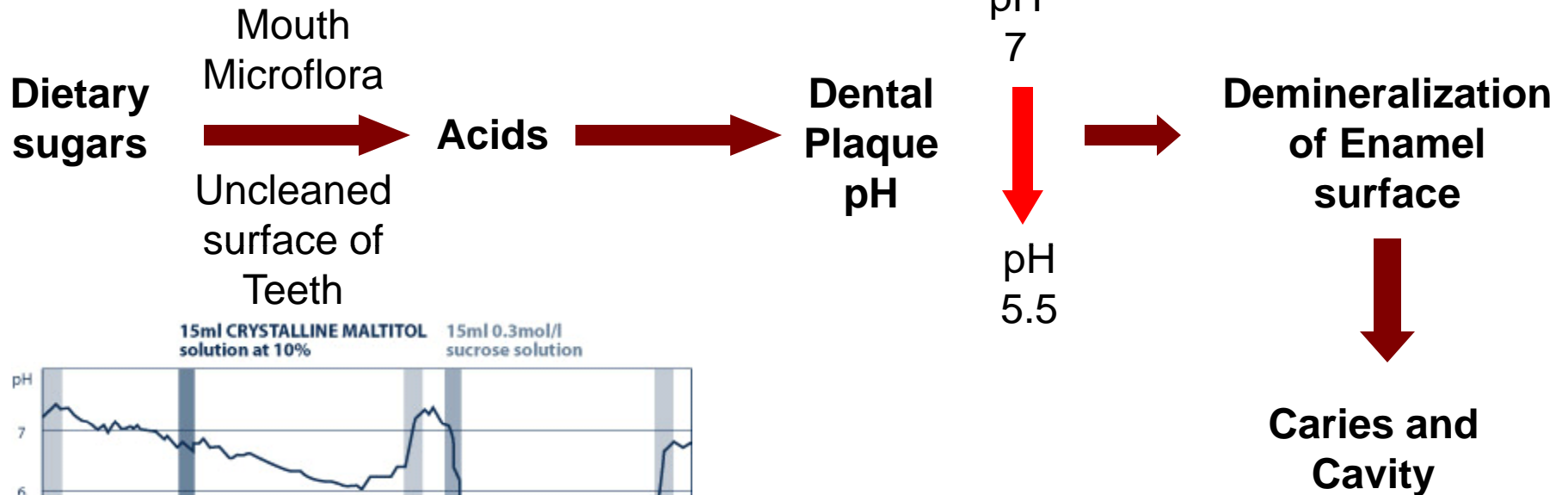
*Bulking agents +
Intense sweeteners*

*Acesulfame K,
Sucralose, Aspartame,
Neotame, Cyclamate,
Saccharin,*

*Maltitol, Sorbitol,
Xylitol, Isomalt,
Erythritol, Lactitol,
mannitol*

*Gluco-polysaccharides,
Resistant starches,
resistant maltodextrins,
Inulin, Fructo-
oligosaccharides*

Confectionery Products



- Rinsing with 15ml of 10% SweetPearl™ maltitol solution
- Rinsing with 15ml of 0.3mol/l sucrose solution
- Chewing of paraffin wax for 3 min.

Dental Institute University of Zurich
22/02/2010

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Sugar alternatives can be useful for oral health



Protein Enrichment

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Protein Needs

Protein needs increases with age

- 1.14 g/kg of bodyweight / day 1 year child
- 0.91 g/kg of bodyweight / day 10 years old
- 0.83 g / kg of bodyweight / day for adults
- 1 g / kg of bodyweight / day for seniors
- At least 1.3 g / kg of body weight / day for sportsperson.

Protein Requirements (g/kg per day)

Age (Years)	Maintenance	Growth
0.5	0.66	0.46
1-2		0.20
3-10		0.07
11-14		0.07
15-18		0.04
>18		0

Source@ WHO Technical Report Series 916

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Protein Source vs Protein Quality

Protein Sources

Cereals

Legumes

Animal

Milk

Egg

Protein Quality

Digestibility

It is a measure of the protein intake which is made available to the organism after digestion and absorption

Biological value

It is a measure of how well the absorbed amino acid profile matches that of the requirement

Digestibility × Amino Acid Score

Protein digestibility corrected amino acid score (PDCAAS)



Dietary Fibers

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Dietary Fibers

Sources of Dietary Fibers

All kind of cereals (Rice/Wheat/Pulses)
Fruits
Legumes/Vegetables

Trend: Towards Processed Foods

Convenience
Availability *25 to 30 g/day*
Preservation

Physiological effects

Fermentable by colonic
microflora

Reduce blood total and/or LDL
Cholesterol levels

Reduce post-prandial blood
glucose and/or insulin levels

Decrease intestinal transit
time and increase stool bulk

Dietary Fiber fortification

Bakery, Beverages, Dairy Products

Dietary Fibers

Codex guidelines

Problems

Texture
Solubility
Digestibility tolerance
Process Stability

Solution

Soluble Fibers

Claim	Standard
Source of Fiber	3 g per 100g or 1.5 g per 100 Kcal or 1.5 g per serving
Rich in Fiber	6 g per 100 g or 3 g per 100 Kcal or 3 g per serving
Enriched in Fiber	More than 25% compared to standard product and the difference is at least equal to the quantity for a “source of fibre” claim