



# “Food for Health”



*From Traditional Foods to Processed Foods*

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# ***Overview***

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- **Introduction to Traditional & Processed Foods**
- **Consumer Trends : Diet & Lifestyle**
- **NCD Trends in India**
- **Role of Healthy Diet and lifestyle on NCD's**
  - **Reducing Fat & Salt in Food Products**
  - **Functional Food Opportunities**
- **Tackling Nutritional Transition in India – Role of Processed Foods**



# Traditional Foods



- Long History of Use
- Evolution and Adaptation with Geo-Climatic Conditions
- Seasonal Variation
- Rich source of essential Nutrients & Phytochemicals
- Often part of Traditional Medicinal System



# Traditional Foods



## 'Older varieties of fruits, veggies were healthier'

Newer, Supermarket Stocks Are Less Nutritious: Study

**London:** Older varieties of fruit and vegetables tend to contain significantly healthier than their modern supermarket equivalents, a new study has found.

A paper study found that an apple from the 19th century was significantly healthier than a modern supermarket apple. It also found that a 19th-century tomato was significantly healthier than a modern supermarket tomato.

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It has already been found that the 19th-century apple which is often used by the food industry, was significantly healthier than the modern supermarket apple.

The chemical analysis of the 19th-century apple found that it contained significantly more antioxidants than the modern supermarket apple.

While the 19th-century apple is widely available, the researchers found that it has not been introduced to the market for a long time and is not available in most supermarkets, which can substantially reduce its nutritional value.

The scientists of Unilever, New Garden and Cranfield University in Bedfordshire, believe "the 19th-century" fruit and vegetables in supermarkets have higher levels of antioxidants than the modern supermarket equivalents, which are used to make



**ON THE MARKET:** Today, supermarkets select the best-looking stock, which is less healthy than the older varieties of fruit and vegetables.

supermarkets and play a key role in the food industry.

Today, some mass-produced fruits and vegetables are stored for months at a time in cold conditions to slow the ripening process. This process depletes the vitamins in the skin.

In addition, supermarkets select the best-looking stock when, in fact, plants produce more nutritious chemicals if they have bruises, as these are produced as a de-

fence mechanism against insects.

Lord Terry from Cranfield University said a "paradoxical shift" was required to promote foods based on their health-promoting properties, not their appearance.

"In the Stone Age people would have eaten 20 or 30 different types of fruit and vegetables every day. Now we tend to eat a few of the same ones all the time," the Daily Mail quoted Mark Berry, lead researcher of the study saying, as



Less shiny but potentially healthier

Loss of Phytochemical Diversity due Selection of Cereals, Fruits and Vegetables for Appearance and Yield.



# Food Security



## World Population would be about 9 Billion in 2050

Need enough food for this population and hence high yielding varieties would be essential

Need to preserve food to ensure around the year supply hence food processing would be essential.

***Challenge – How do we give ‘goodness of traditional food through Processed Foods?’***



# Need for Processing the Foods



## **Preservation**

Increased shelf life of food- preservation in large quantity to cater to huge food demand

## **Convenient**

Convenient, easy-to-cook, and ready-to-eat foods makes appealing to consumer

## **Reduction in Unwanted Things**

Phytates are reduced during processing

## **Removal of Toxins**

Processing techniques to reduce toxicity (cyanide in Cassava) and anti nutrients and allergens

## **Enhanced Bioavailability**

Food –processing and preparation practices to enhance the bioavailability of micronutrients in plant- based diets





Consumer Trends : Diet & Lifestyle



# Emerging Food Trends



Mummy ka Magic



More Experimenting



Evolving Home Delivery Model



Instant Pick Me Up



Taste & Health Bhi



POP will remain Supreme



Emerging Middle class



Use of Social Media

facebook

twitter

YouTube

orkut

flickr

Source : Technopak  
Indian Palate: Changing Food Habits  
& Consumer Behavior



# Increasing Expenditure for Foods in India

## *A healthy affair*

THE ORGANISED FOOD MARKET IS SET TO TRIPLE OVER THE NEXT EIGHT YEARS

2010

Foods

Foods

FOOD  
895

2020

*Total expenditure in \$ bn*

- Rising household incomes, increasing urbanisations and prevalence of nuclear families
- A new breed of consumers exposed to the concept of brands and having a higher propensity to spend
- Currently 20% of food consumed are processed – expected to 35% by 2020
- Only 6% of agricultural produce in India is properly processed

3528

296

FOOD & BEVERAGE  
225

HEALTH  
183

FICCI-BCG report on  
'India Food Processing: Mission 2020'



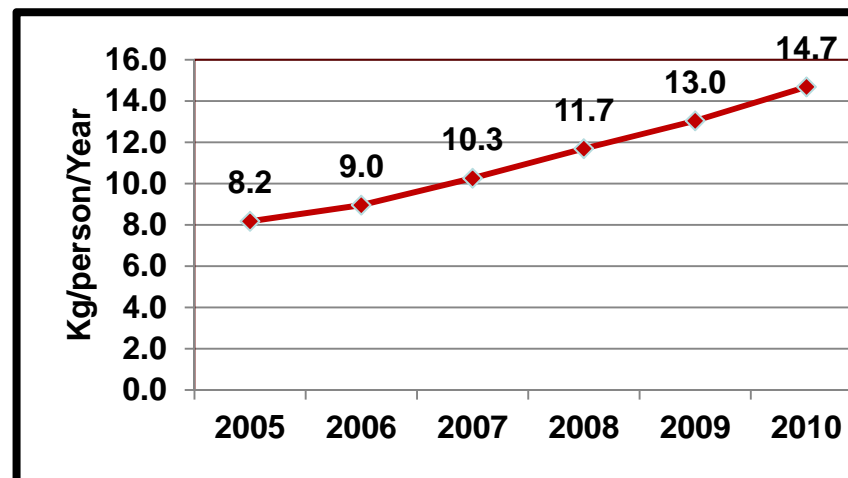
# India – Packaged Food

Vision Document Projections		
	2003-04	2014-15
	(\$ billion)	(\$ billion)
Total food consumption	205	
Processed foods	126	274
Primary processed food	79	136
Value Added Food	48	138
Share of value added products in food production	16%	50%

Report by WAY2WEALTH Securities Pvt. Ltd.



**Per capita Consumption of Sweet and Savoury Snacks by Young India (kg/Year/ percapita)**



Source: FLEXNEWS, 2008



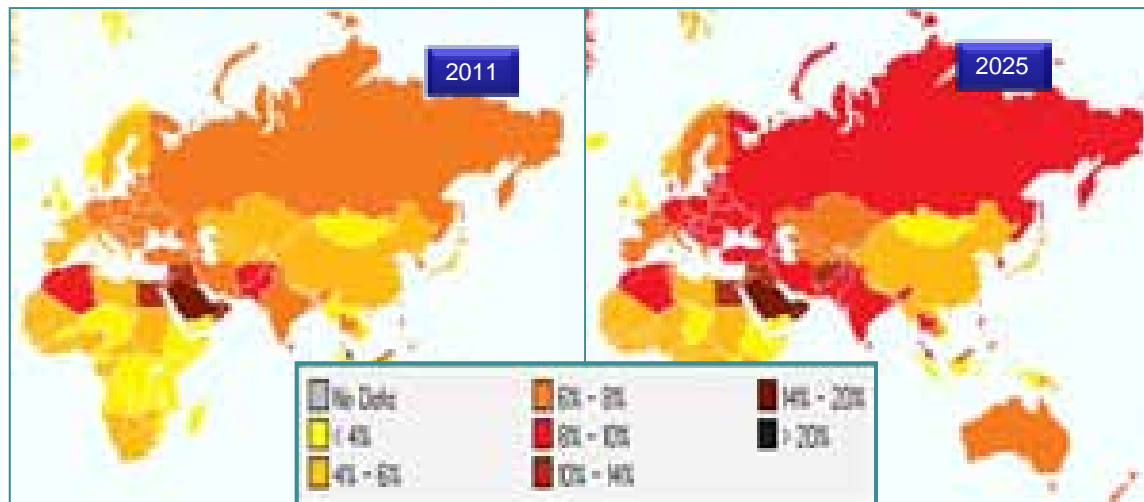


## NCD Trend in India



# NC Diseases – Global & Indian Scenario

**By 2025, it is predicted that over 400 million people in Asia will have developed diabetes or impaired glucose tolerance!!**



• CHDs are the leading cause of death in India, accounting for an estimated 2.25 million deaths in 2010 (excluding stroke) and projected to reach 2.94 million deaths in 2015<sup>1</sup>.



Source: Diabetes Atlas  
International Diabetes Federation



**WHO estimates by 2015, India is set to lose a massive 237 billion USD, in national income as a result of diabetes, heart disease and stroke**





# Obesity –Cause of Other Chronic Diseases

## 1 in 5 hit by diabetes, BP

Lack Of Exercise, Non-Veg Food To Blame: Study

THE TIMES NEWS NETWORK

**Mumbai:** One in every five Indian adults living in cities suffers not only from hypertension but also diabetes. In Maharashtra, one in three persons is struck by the twin ailments.

These are some of the highlights of India's largest state-based survey to assess the prevalence of diabetes and hypertension. The findings of the study, called Screening India's Twin Epidemics (SITE), were announced in Mumbai on Monday.

The overall health picture, the study suggests, is grim: 40%, or three out of every five Indians, have either diabetes or hypertension or both. The corresponding figure in Maharashtra, at 56%, is worse. Almost 40% of those tested in the state had diabetes. Every second person had hypertension.

The SITE study, sponsored by a pharma multinational, tested almost 15,000 people living in cities across eight states over three years. Patients walking into general practitioners'

### DOUBLE WHAMMY

15,042 patients were screened for the study in eight Indian states. In Maharashtra alone, 1,942 patients were studied.

	MAHARASHTRA	NATIONAL
Prevalence of diabetes	40	35
Prevalence of hypertension	56	46
Prevalence of both diabetes and hypertension	29	21

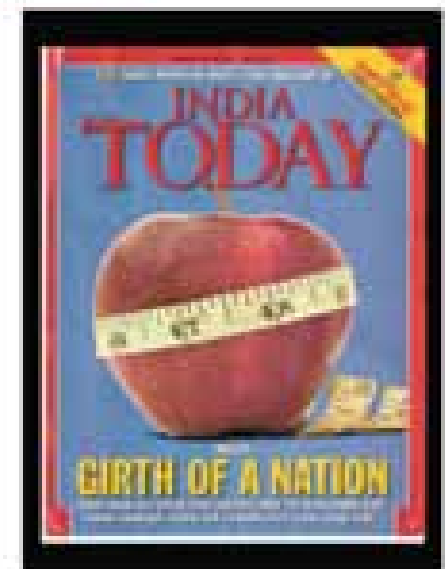
All figures in per cent

clinics for complaints other than diabetes and hypertension were tested.

"It is shocking that 90% of those we studied suffered from hypertension or diabetes or both," said Dr Shashank Joshi, the principal investigator for the SITE study. He further said that the total number of people suffering from either of the two diseases was almost as much as the number of people having both diseases. "This only shows how uncontrolled the diseases are.

People don't monitor their sugar or blood pressure regularly."

The study assessed people on three parameters. If their level of glycosyl haemoglobin was under 7, if their blood pressure was less than 130/90, and if their level of total cholesterol was less than 180 mg/dl. "The study found that only 1.8% of those tested could achieve these standards," said Dr Joshi. Only 30% had controlled blood pressure levels.







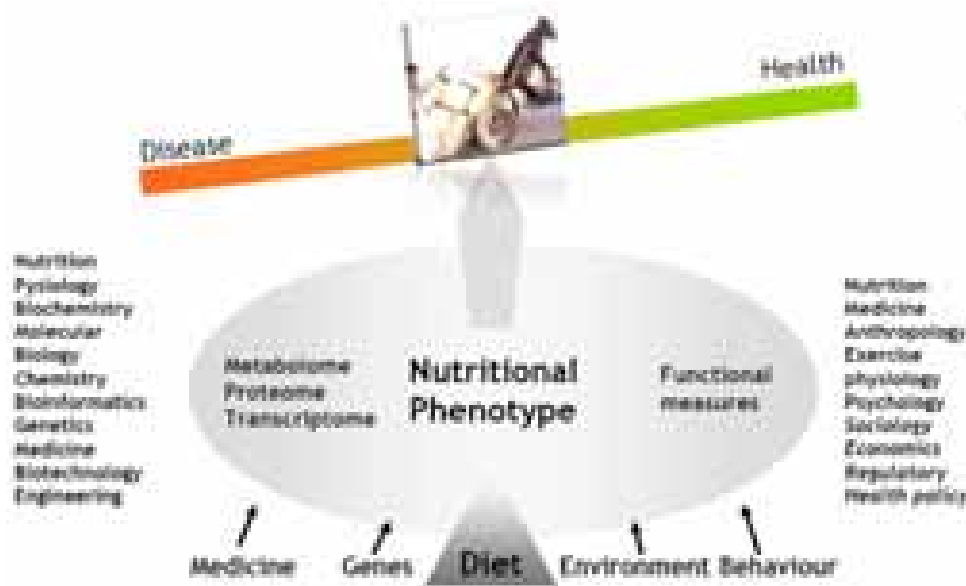
How to reduce load of NCDs  
Balanced healthy diet and life style



# The balanced healthy diet and life style

## Nutritional Prospect

The balanced healthy diet and life style



Evolution of global food demand



Getting the Balance Right  
is Important!



# Products Benchmarked



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Based on International Dietary Guidelines (WHO/FAO)  
all major Food Companies benchmark products on

- Saturated Fat
- Trans Fat
- Sodium
- Sugar

Total reductions in Global Unilever portfolio

- Trans fat : > 30,370 tons
- Saturated fat: > 18,000 tons
- Sodium : > 3,640 tons
- Sugar : > 37,000 tons



# Fat Reduction Toolbox

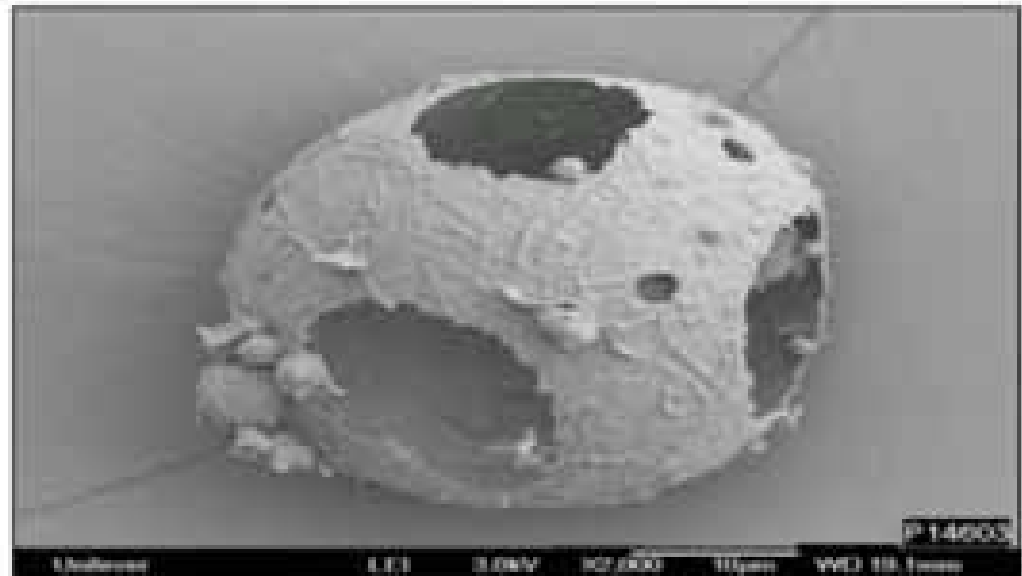


## Super-critical Melt Micronisation (ScMM)

A revolution for fat-containing products

ScMM creates margarines, whipped cream, ice cream and bouillion with:

- $\leq 50\%$  less SAFA
- less processing time & cost

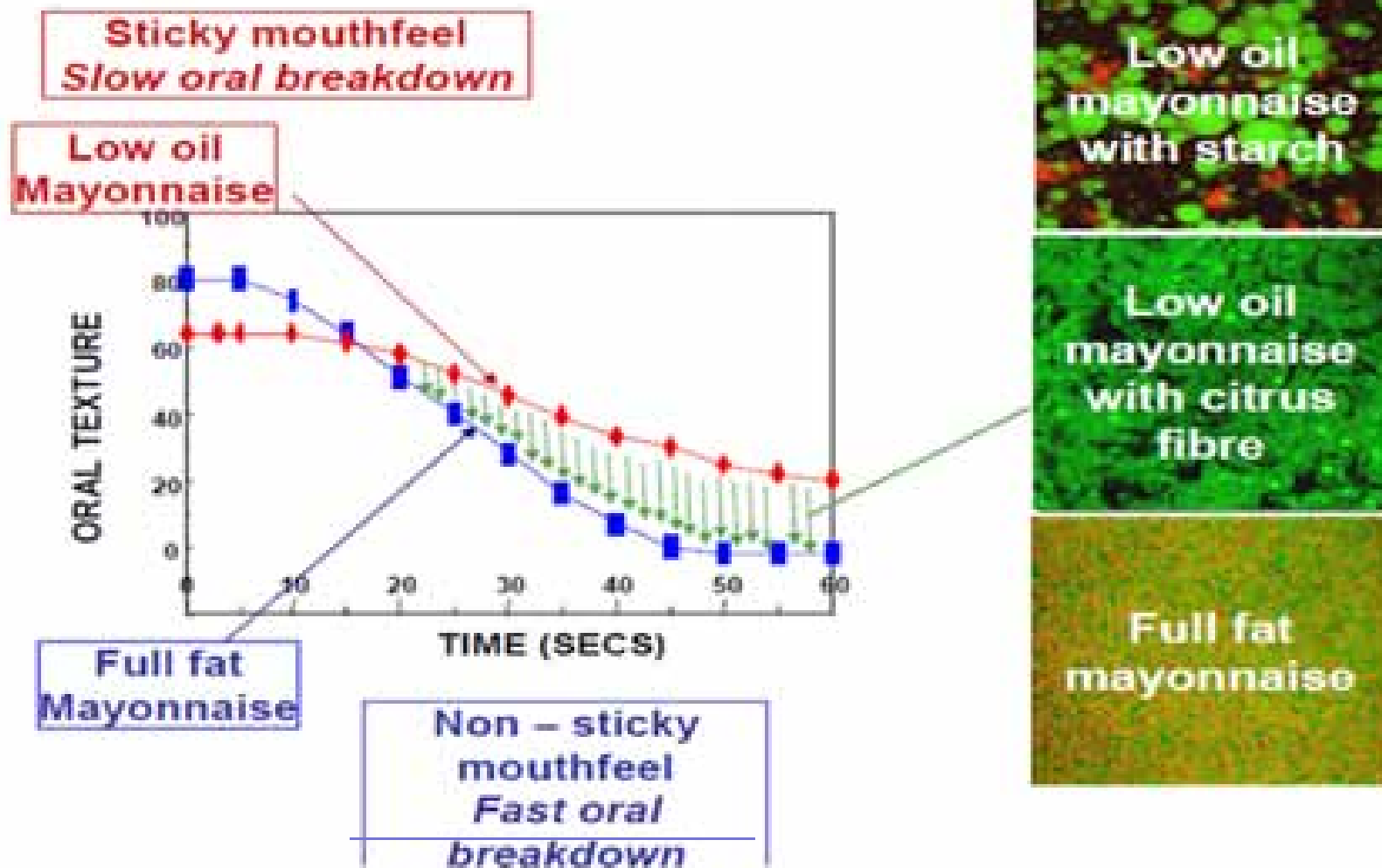


The 'Bowling Ball'  
Very small porous fat particle found in the ScMM fat powder



# Fat Reduction Toolbox

Weight management Low fat mayonnaise with citrus fibre technology

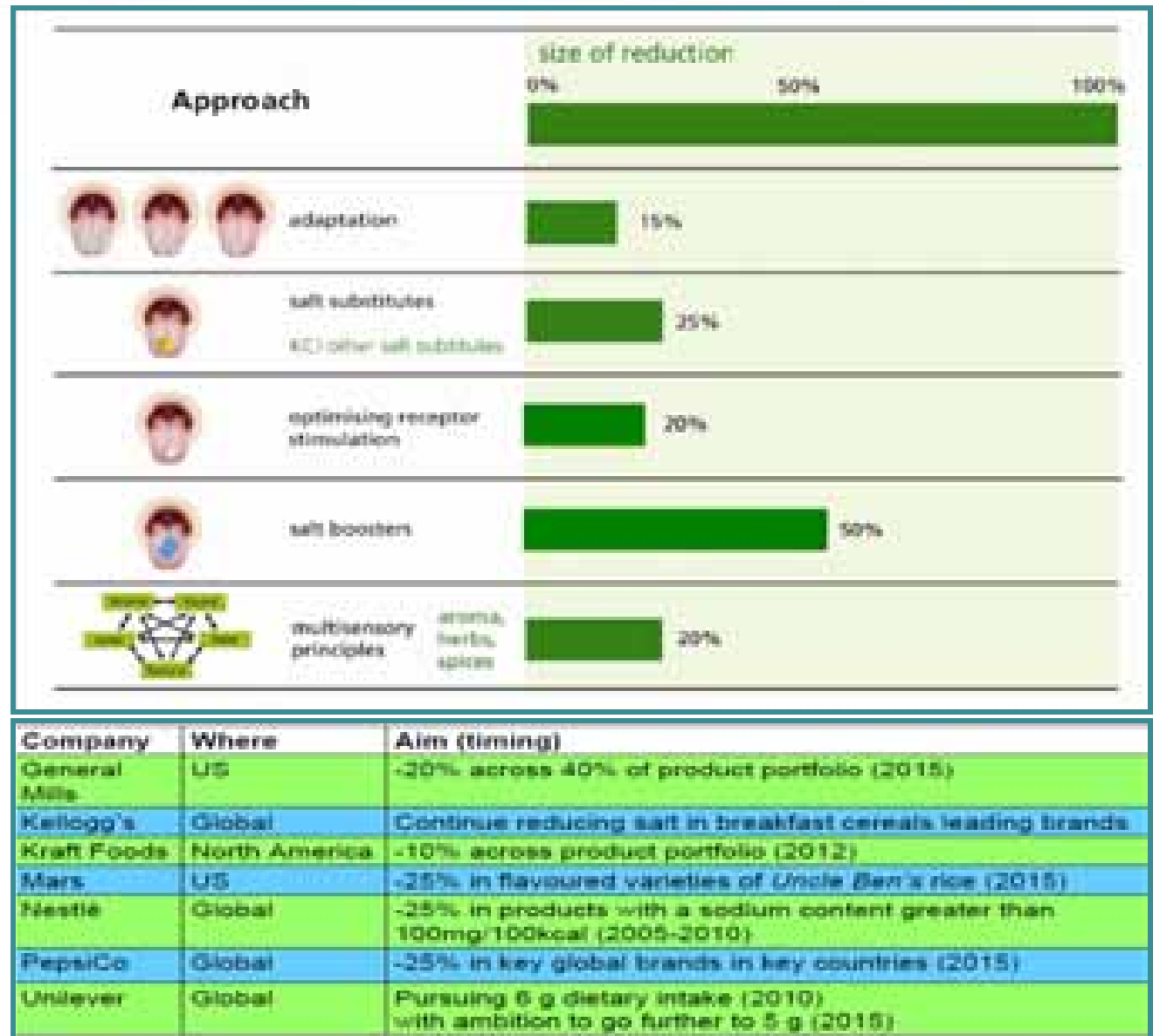




# Salt Reduction Toolbox



WHO-recommended  
'5g daily salt intake'  
can save 4 million  
lives every year

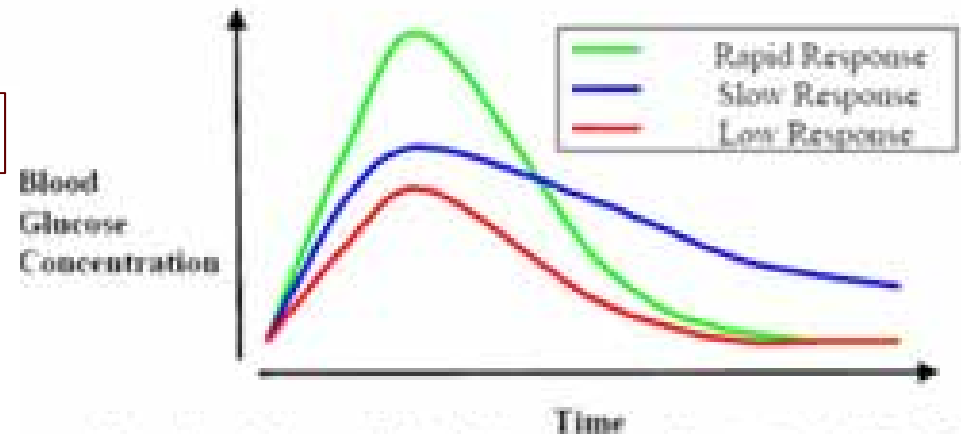
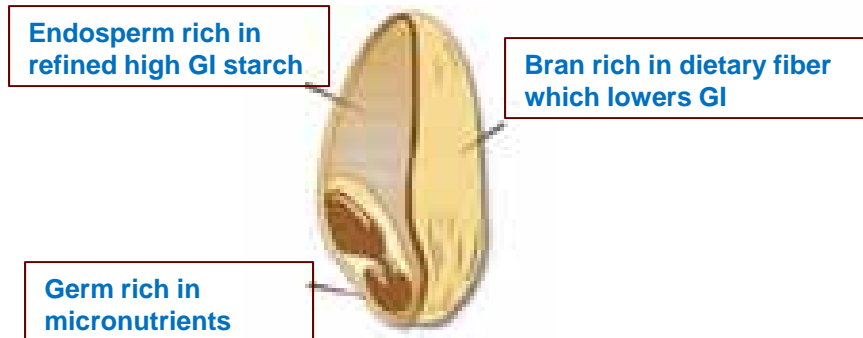




# Benefits of Whole Grains



## Whole grain



Glycemic Index claims validated through in-vivo testing (clinical)

Milling and polishing reduces most of bran and many of the micronutrients

## Cardiovascular Disease



~ 15 clinical trials showed + effect of whole grain on TC and LDL compared with refined starch

## Diabetes



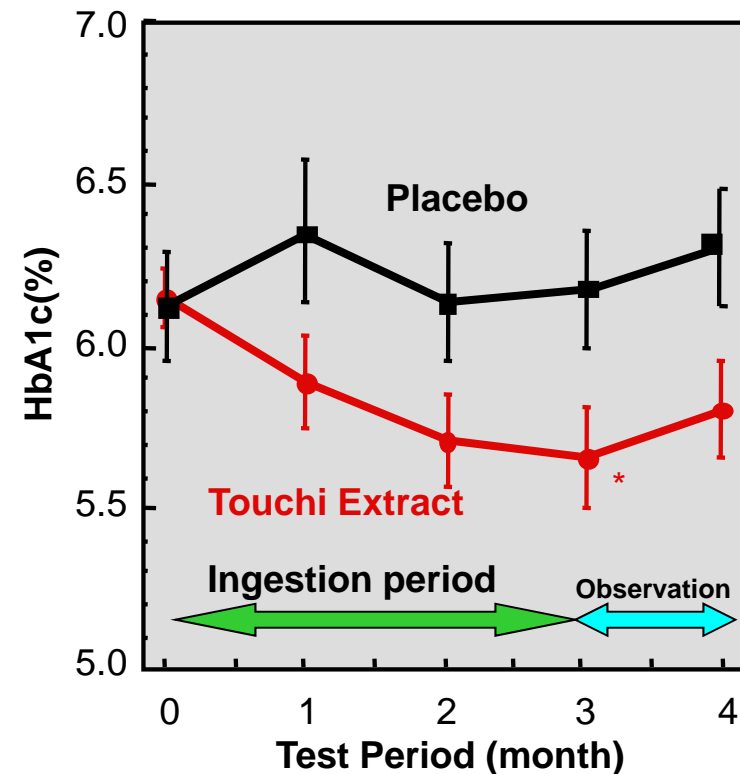
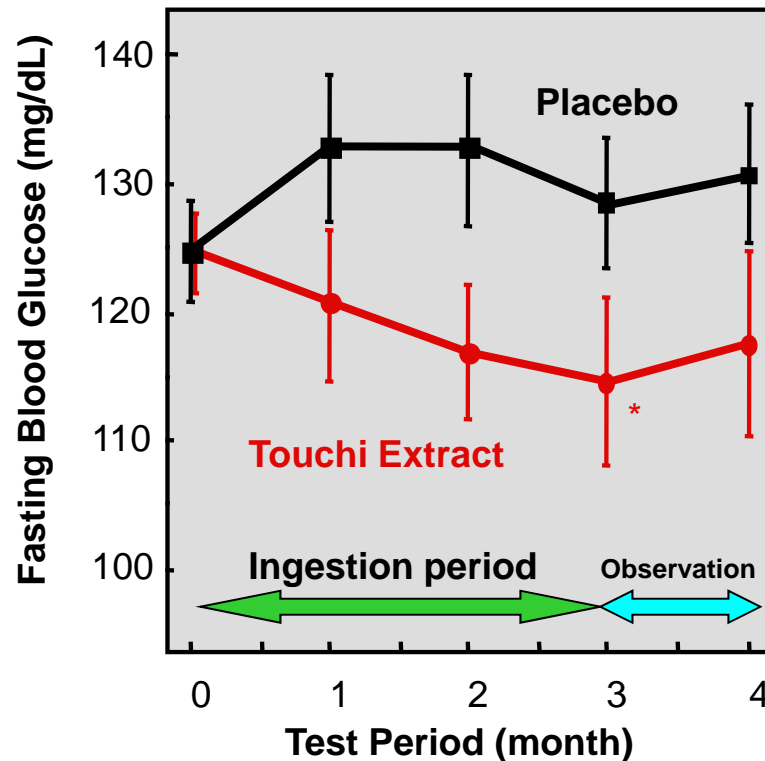
~ 10 clinical trials showed + effect of whole grain on BGL and insulin sensitivity compared with refined starch

WHOLE GRAIN INTAKE AND CARDIOVASCULAR DISEASE  
AND WHOLE GRAIN INTAKE AND DIABETES  
A REVIEW



# Touchi Extract Clinical Study:

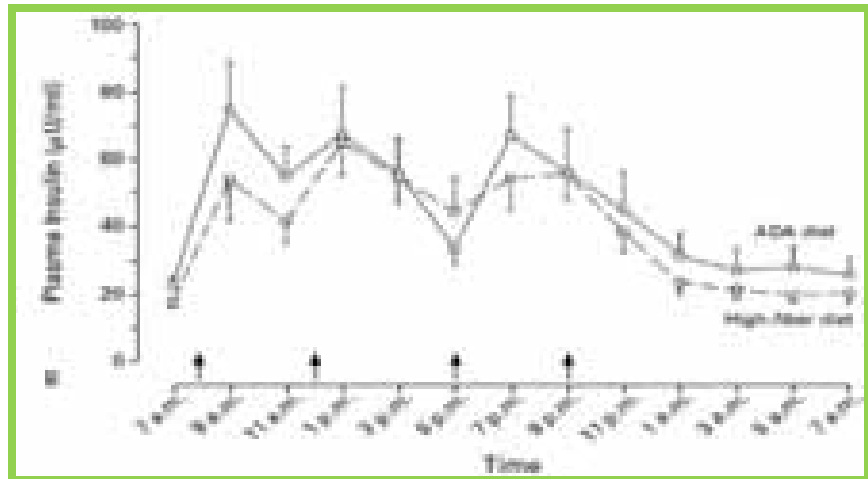
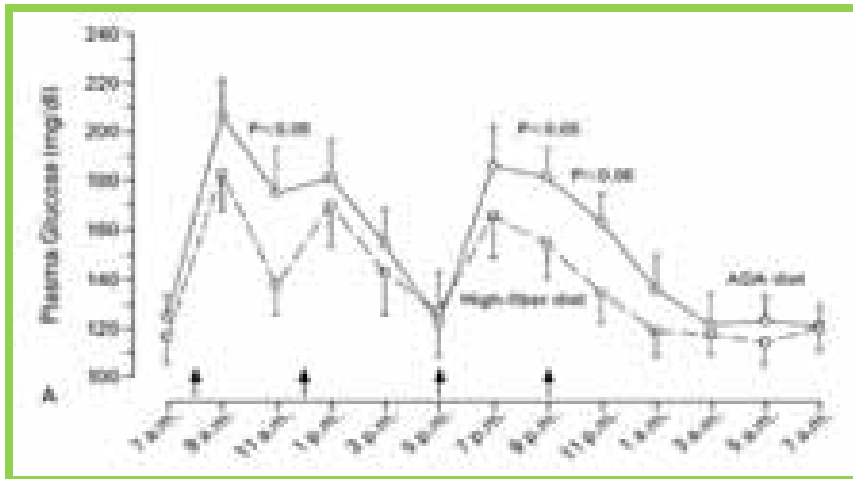
Placebo used, double-blinded, Randomized Group comparison





# Benefits of Dietary Fibers

## On plasma Glucose and insulin in patients with Type 2 Diabetes mellitus



The arrows indicate the times at which the main meals and a snack were consumed during the day.

## Other uses of dietary fibers / polysaccharides in Foods




**Thickeners –  
stabilization and  
mouth feel**



**Gelatinization**



**Control or ice  
crystals**



**Stabilization of  
emulsions (fat,  
protein or  
particles)**



# Potential 'Functional' food targets for weight management and loss



## **Reduce energy *intake***

- Enhanced satiety or food intake control
  - Gut action
  - Post-absorptive (metabolic or central) action



## **Interfere with energy *uptake***

- Reduced absorption -> excretory loss
  - Lipase, amylase inhibition
  - Fat 'trapping', insoluble complexes, soaps
  - Fat or CHO modification
  - Probiotics?

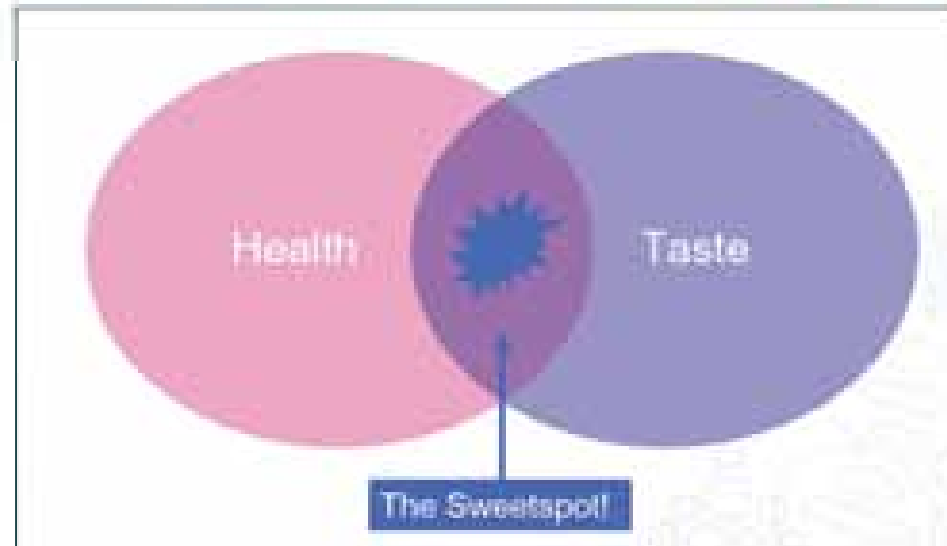


## **Alter energy *metabolism***

- Thermogenesis
- Substrate delivery/oxidation
- Nutrient partitioning (fat:lean)



# Need to Drive Taste and Health Together



## Consumer Insights-1

***Consumers won't accept compromises for health  
--> TASTE and convenience are key***

- 57% rarely or never give up good taste for health benefits
- 42% rarely or never give up convenience for health benefits

Source: Health Focus 2000

### **Sweet spot can be achieved by :**

- Reduction of unhealthy ingredients (salts, trans fat, and sugars)
- Addition of functional ingredients (structurants, actives, and taste enhancers)



# Nutrition Transition: Global



4bn people affected by malnutrition deserve the chance to develop physically & mentally to get more out of life.



50% of world's population have blood cholesterol that's too high.  
 2010 – CVD - 89 million deaths in next 10yrs –  
 Diabetes - 80% - live in low and middle income countries  
 Diabetes deaths - increase by > 50% in next 10 years.



30% of world's population have blood pressure that's too high.  
 By 2015 - ~ 2.3 billion adults Overweight; >700 million will be obese.  
 2005 – Globally, 20 million children < 5 years are overweight!





*Thank you*