Food Enrichment Through Value Adding Ingredients

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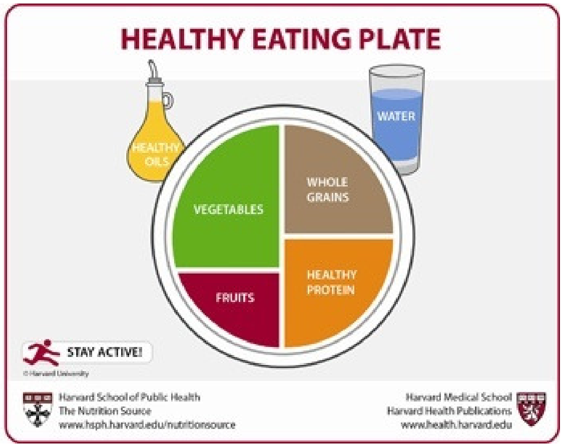
Agenda

- Introduction
- Food And Health – Establishing Linkage
- Global Consumer Mindset
- Trends in Health Promoting Ingredient Categories
- Consumer Groups and Characterization
- Addressing Consumer Concerns
- Conclusion

Health and wellness: a cultural transformation

- There has been a paradigm shift from reactive to proactive attitudes about health and wellness
- Many consumers are seeking fresh, natural and minimally processed foods, with ingredients that help fight disease and promote good health
- While diet and nutrition are a big part of the equation, many other factors contribute to living a balanced life
- Consumers think, live and shop differently, depending on where they are within the world of health and wellness
- All consumers participate in the health and wellness spectrum … whether it's aspirational or actual



Sources: Health & Wellness, 2015, The Hartman Group; We are what we eat, January 2015, Nielsen

Population Growth & Need for Nutritious Healthy Food

ONE

in nine people on earth do not have enough food to lead a healthy active life[1]

45%

of deaths in children under five, is caused due to poor nutrition each year[2]

- Rising middle class with more disposable income and greater appetites for food are rapidly expanding in **India, China, Russia and other developing countries**
- World’s population will reach **9 billion in 2050**

Growing prevalence of lifestyle-related disease

63% **of all deaths globally are attributed to lifestyle-related diseases**

371 Million **people globally are suffering from diabetes**

~17.5 Million **31% of global deaths were attributed to cardiovascular diseases (CVD)in 2012**

- Diabetes is the fastest growing chronic disease, with the number of consumers afflicted expected to increase by two-thirds by 2030.
- Of CVD deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. Over three quarters of CVD deaths take place in low and middle income countries.

Sources: Datamonitor, Health & Wellness Trends in Food & Drink, April 2013
jdrf.org/about-jdrf/fact-sheets/general-**diabetes**-facts
who.int/mediacentre/factsheets/fs317/en

Food and Health – Establishing Linkage

- *The agro-food sector* is the **largest manufacturing sector**

  ➔ ***need for more "added value"***

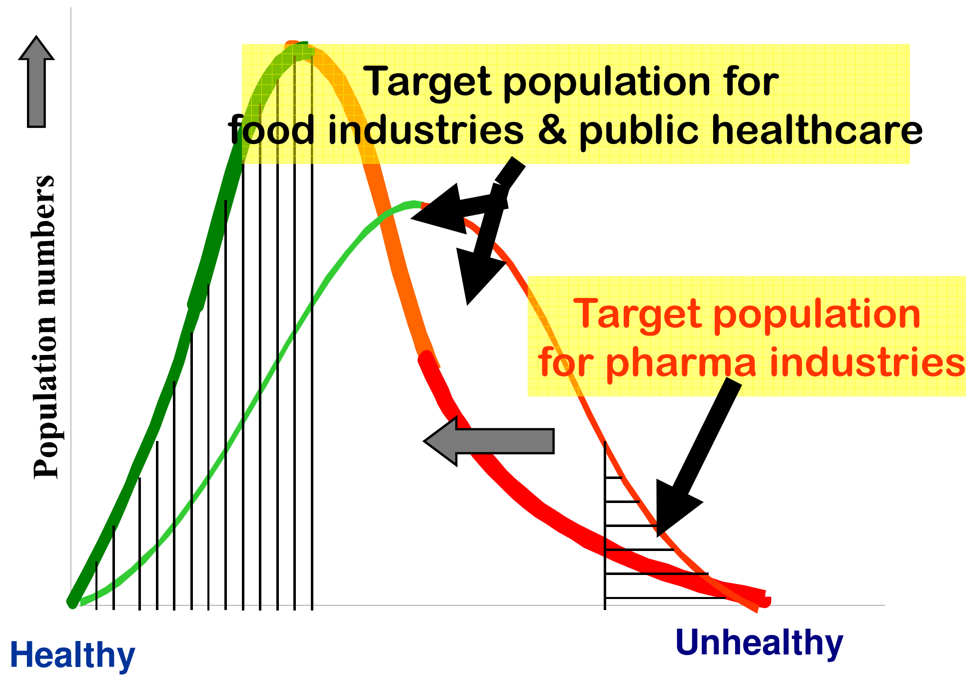
- *The ageing population* and *changes in lifestyle and dietary patterns* have increased the incidence of life style diseases

  ➔ ***need for "food & health / add life to years"***

- *Consumer concerns* over food safety and environmental issues

  ➔ ***need for "food you can trust" and "sustainable food production"***

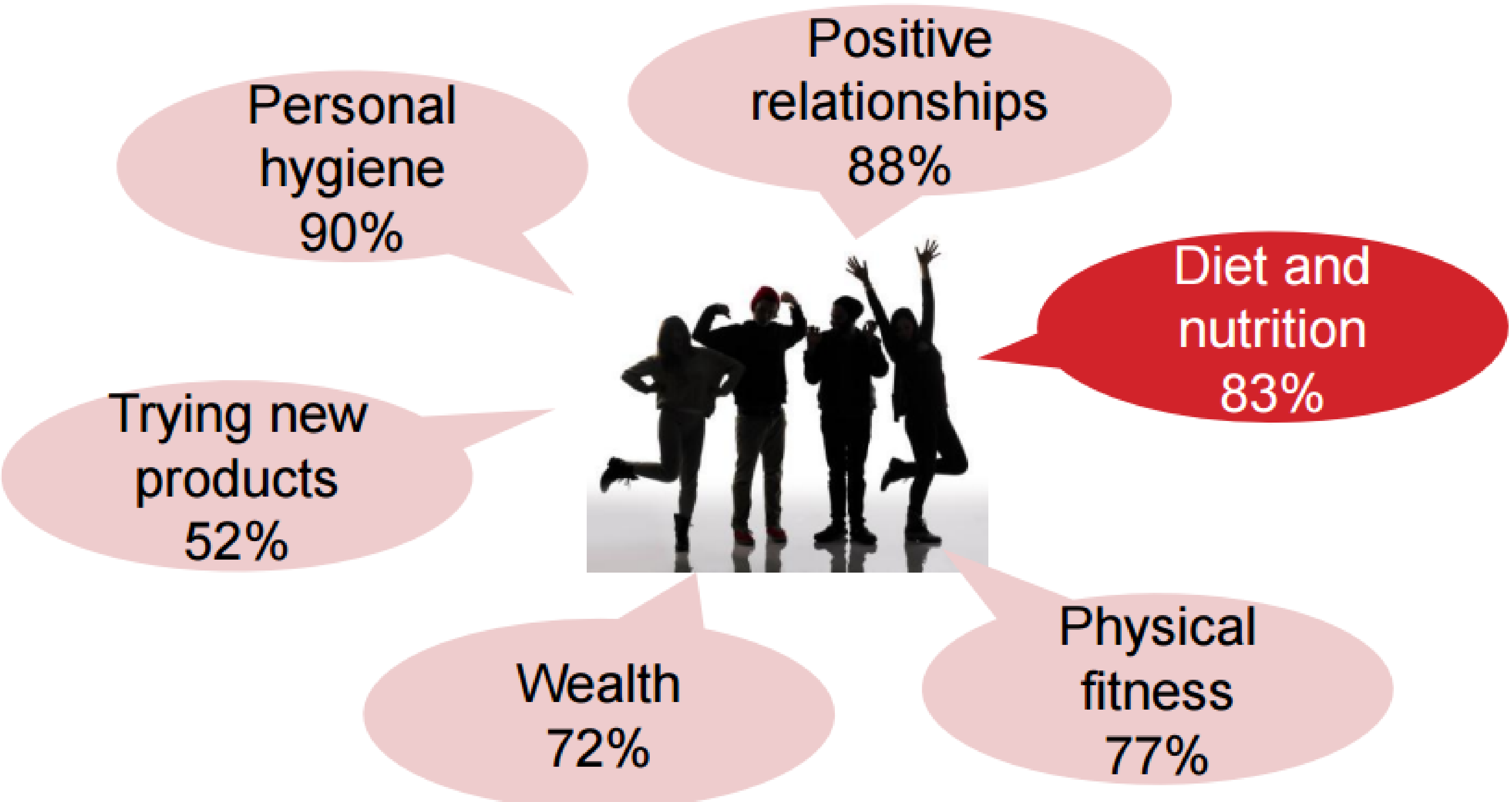
A vision for improving population health:



Let food be your medicine and medicine be your food – Hippocrates, 400 B.C

Global Consumer Mindset

83% of global consumers consider diet and nutrition important to overall wellbeing (wellness)



Source: Datamonitor, Health & Wellness Trends in Food & Drink, April 2013

Aligning health and wellness product innovation with consumer lifestyles is critical to fulfilling unmet needs and driving profitability

Consumers have become increasingly aware of and proactive about their health, yet the prevalence of lifestyle-related diseases continues to rise

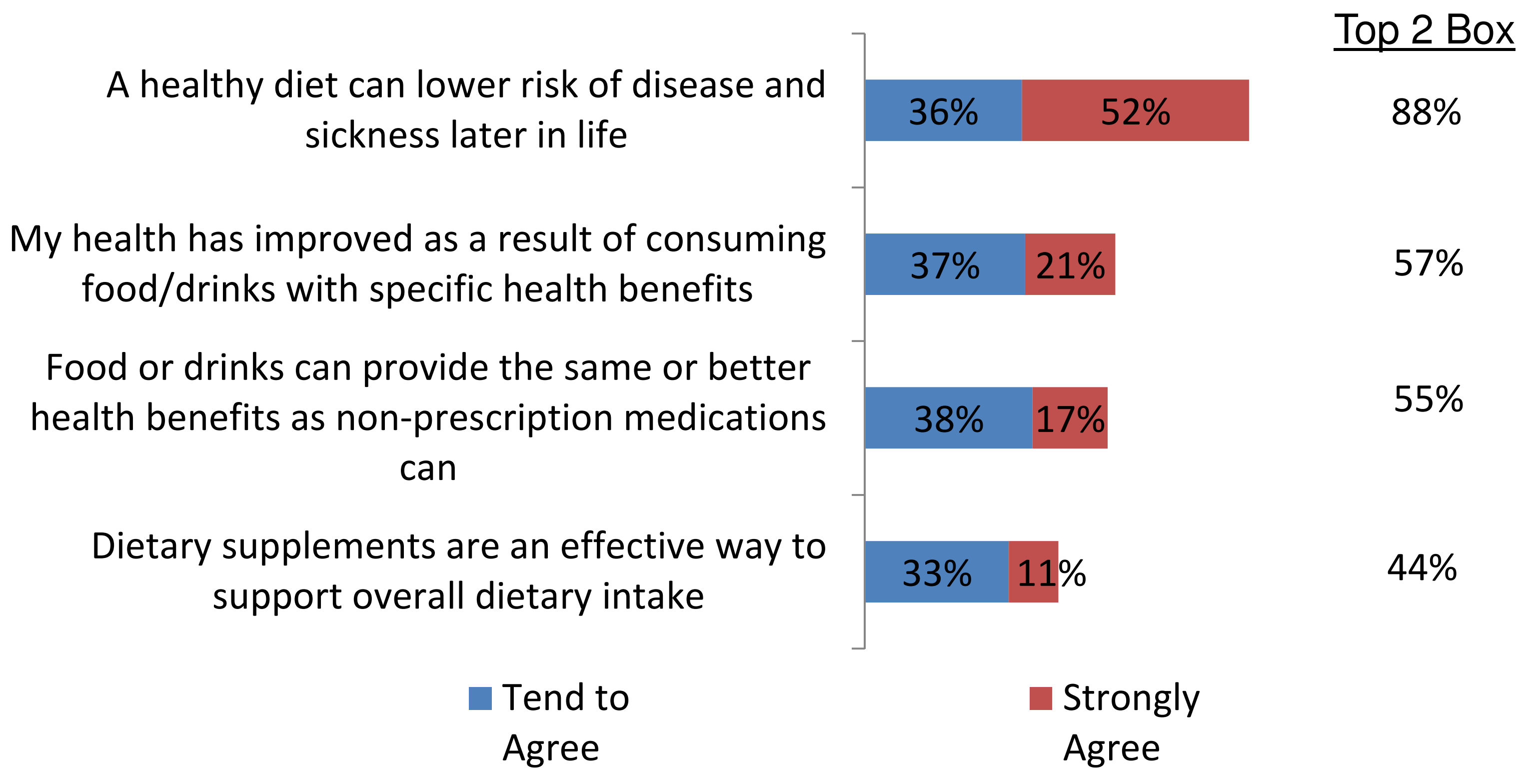
The majority of consumers see a direct link between diet-nutrition and health-wellbeing

There is a gap between interest in functional foods and health and actual purchase behavior

Source: Datamonitor, Health & Wellness Trends in Food & Drink, April 2013

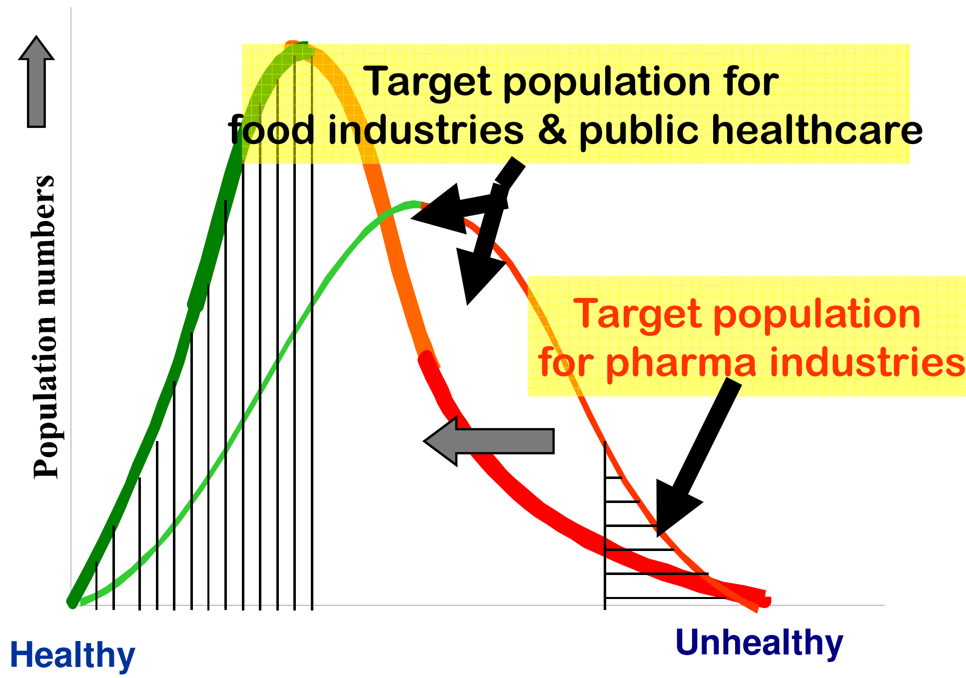
Globally, consumers realize the important role healthy foods, drinks and dietary supplements can play in their overall well being

Q: To what extent do you agree or disagree with the following statements?



Source: Datamonitor, 2013 Consumer Insights Survey, 24 Countries, N=25,322

A vision for improving population health:



Trends in Health promoting ingredient categories

Vitamins

- Vit. C
- B_1, B_2, B_6, B_{12}
- Folic acid
- Niacin
- Biotin
- Panthothenic acid
- Vit. A
- Vit. E
- Vit. K
- Vit. D
- β-Carotene (Provitamin A)

PUFA/ speciality lipids

- DHA/EPA
- ARA
- GLA
- CLA
- Structured lipids
- Pinolenic acid

Phyto-chemicals

- Phytosterols
- Isoflavones
- Lignans
- Polyphenols (from berries, olive, tea, tomato, apple, grape, cocoa)
- Tocotrienols
- Isothiocyanates

Prebiotics

- FOS
- Inulin
- GOS
- Poly-dextrose
- Other oligo-saccharides (XOS, SOS)

Probiotics

- Lactobacilli
- Bifidobacteria
- Other cultures

Amino acids, peptides proteins

- Arg, Glu, Lys
- Leu, Ile, Val
- Lactoferrin
- Immuno-globulins
- Bioactive peptides
- Digestive enzymes
- PDCAAS 1

Others

- CoQ10
- Glucosamin
- Chondroitin
- Lipoic acid
- Inositol
- Creatine
- Carnitine
- Taurin
- SAMe
- Choline
- Betaine
- …

Polyols

- Xylitol
- Lactitol
- Isomalt
- Maltitol
- Erythritol

Minerals

- Calcium
- Magnesium
- Zinc
- Iron
- Sodium
- Potassium
- Selenium
- Chromium
- …

Carotenoids

- β-Carotene
- Lycopene
- Lutein
- Zeaxanthin
- Astaxanthin

Fibres

- Inulin
- Soy Fiber
- Poly-dextrose
- Beta-glucan
- Resistant starch
- Gums such as guar gum
- Pectins
- Resistant maltodextrin
- Psyllium
- Insoluble fibres

Not part of food chain

Herbal/ Botanical Extracts

- Gingko
- Gingseng
- Kava Kava
- Saw Palmetto
- Horse Chestnut
- Echinacea
- St. John's Wort
- Hoodia gordonii
- Rosemary ext

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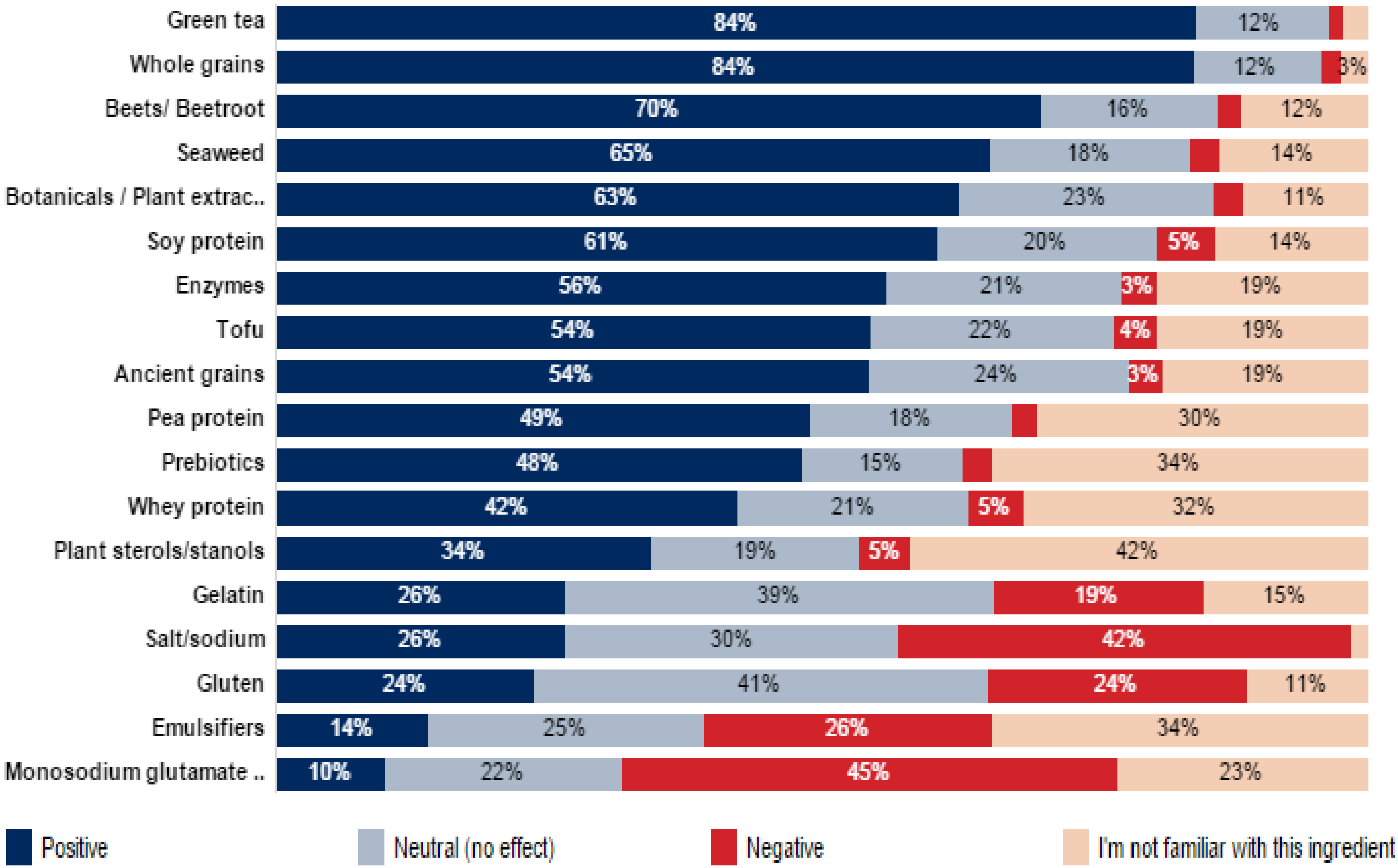
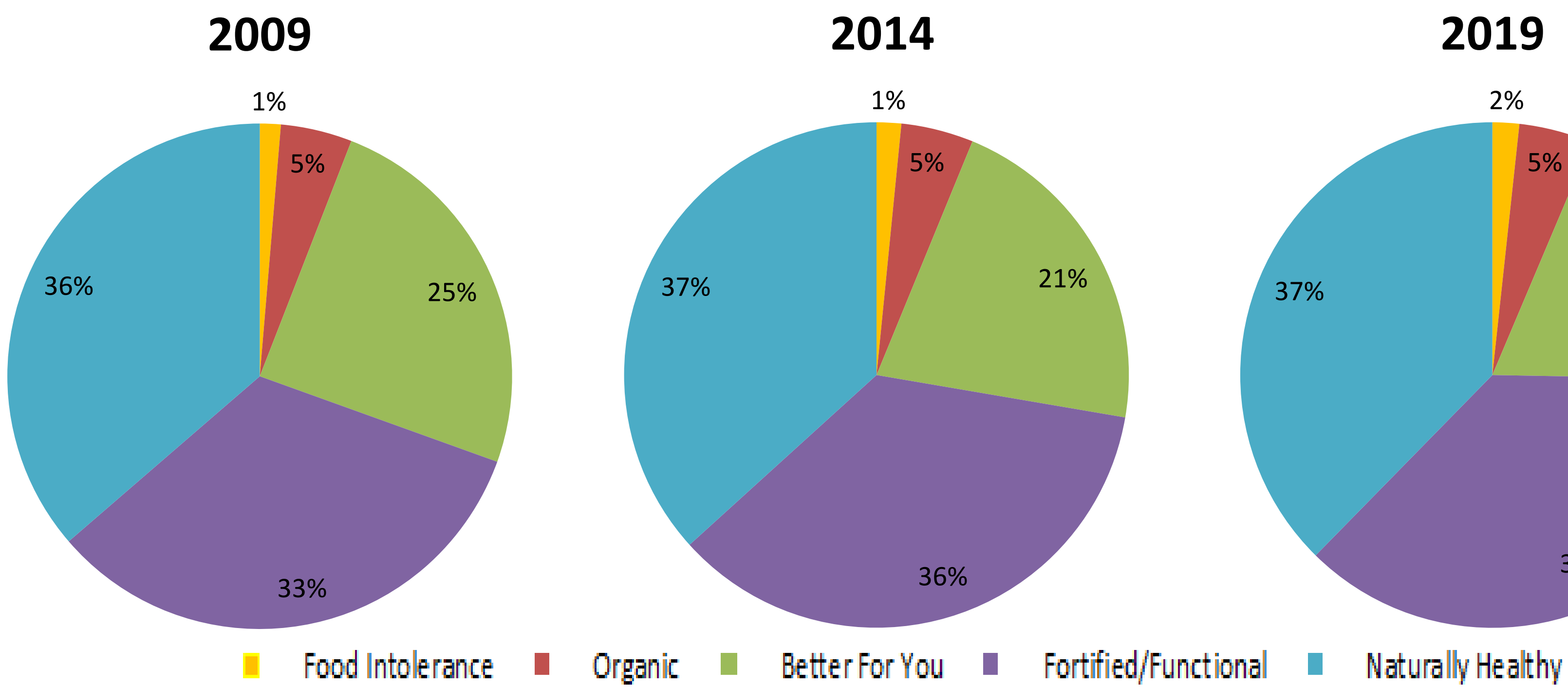
Global Consumer Perceptions – Food Ingredients



n = 24,500, aged 18+

Source: Datamonitor, Consumer Perceptions of Health Impact of Ingredients, June 2015

Among H&W offerings, fortified/functional and naturally healthy products have the largest share, with food intolerance products showing the greatest past and predicted growth



$mn	2009	2014	2019E	09-14 CAGR	14-19 CAGR
Food Intolerance	7,884.20	12,303.80	16,054.10	9.3%	5.5%
Organic	26,560.60	35,929.20	43,485.60	6.2%	3.9%
Better For You	142,828.10	166,581.80	176,688.60	3.1%	1.2%
Fortified/Functional	192,909.60	276,054.80	346,806.20	7.4%	4.7%

Source: Euromonitor, August 2015

Consumer groups – nutrition is primary

Health Helpers

I need help managing my health issues.

Consumers who are affected by health problems and choose foods for specific medical purposes.

Weight Strugglers

I constantly struggle with my weight.

Concerned about weight related health issues but can't seem to overcome barriers that prevent attaining a healthy weight.

Health Wise

We are what we eat.

Knowledgeable about nutrition and health and choose foods that enable a healthier life.

Source: HealthFocus, Intl., Shopping for Family Health Global **Segmentation Analysis, Oct. 2014**

Consumer groups – nutrition is secondary

<u>Taste Driven</u>

If it doesn't taste good I won't buy it.

Eating food must be an enjoyable experience for me and my family.

<u>Good Life</u>

I'll pay more for foods that are better for my family.

Socially responsible and prefer less processed foods but not willing to give up taste or convenience for health reasons.

<u>Just Food</u>

I eat foods that satisfy my hunger.

Not focused on health concerns or the added benefits that foods can offer.

Source: HealthFocus, Intl., Shopping for Family Health Global **Segmentation Analysis, Oct. 2014**

Consumer Groups - Summary Description

Nutrition is Primary			Nutrition is Secondary		
Health Helpers	***Weight Strugglers***	***Health Wise***	***Taste Driven***	***Good Life***	***Just Food***
Managing health issues	Wrestling with weight control	All about health and wellness	Food must taste good or why eat it	Good health is a means to achieving a good life	Eat to satisfy hunger

"The sauce has tomatoes and onions. The crust is basically a big crouton. Technically, pizza is a salad!"

Source: HealthFocus, Intl., Shopping for Family Health Global **Segmentation Analysis, Oct. 2014**

Key identifiers for consumer groups

Nutrition is Primary			Nutrition is Secondary		
Health Helpers	**Weight Strugglers**	**Health Wise**	**Taste Driven**	**Good Life**	**Just Food**
• Most reactive group. • Managing a specific health issue. • Very high health problems and concerns. • Choose foods based on having a health issues. • Believe their diets are reasonably healthful, but because they see themselves as relatively unhealthy change is welcome.	• Frequent dieters. • Issues with weight translate into habit of counting sugar, fat and anything that may contribute to weight problem. • Tend to be health interested. • Diet is important, but they struggle with making good decisions. • Feel least satisfied and experience most guilt with eating habits.	• Most proactive group. • Believe health is an important component of a person's self-concept. • Highly involved in their health and wellness and that of those around them. • Sacrifice taste and pleasure for health. • Natural, organic and sustainable are important. Avoid foods with artificial ingredients. • High self-perceived knowledge/well-informed about (up to date on latest) nutrition.	• Nothing passes their lips until it meets the family taste challenge. After that health, environment, etc. are important and can discriminate. • Interested in health but juggle multiple priorities. • Conscious of cost and time.	• Interested foremost in living THE GOOD LIFE. • Health is a means to achieving that versus an end in itself. • VERY willing to pay whatever it takes. • Balance between healthy eating and eating for pleasure. • Health interest is not low, but other priorities take precedence.	• Eating is just about sustenance. • They either do not believe that there is a direct connection between food and health, or they do not care. • While price is not necessarily seen as a barrier to purchasing, this group shows a very strong reluctance to pay more for added benefits. • Will fall back on prepared packaged foods when strapped for time.

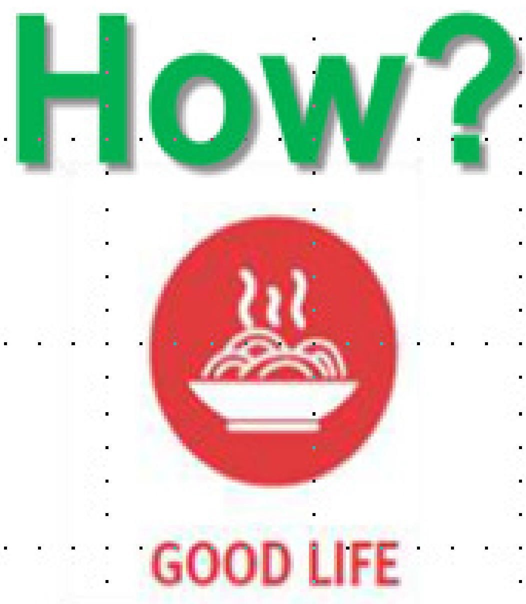
Source: HealthFocus, Intl., Shopping for Family Health Global **Segmentation Analysis, Oct. 2014**

Consumer Groups - Introduction

	Nutrition is Primary			Nutrition is Secondary		
	Health Helpers	***Weight Strugglers***	***Health Wise***	***Taste Driven***	***Good Life***	***Just Food***
Median Age	107	112	95	93	93	95
Children under 18 at home	91	87	**111**	94	**111**	100
Will pay 10% more for health for me and my family	107	102	107	95	**165**	**58**
Affected with overweight/obesity	**221**	**312**	**50**	**58**	**71**	**54**
A/U select foods for health	109	93	**162**	78	**58**	**47**
Describe health as excellent/very good	**87**	**83**	**111**	101	105	100
Very satisfied with current eating habits	83	**63**	**154**	88	79	**54**
Primary reason for eating healthier is my family	100	**73**	**127**	100	**109**	**82**
Always/usually give up taste for health	117	83	**221**	**17**	**33**	**38**
Always/usually choose foods just for taste	100	102	76	**180**	71	70

Source: HealthFocus, Intl., Shopping for Family Health Global **Segmentation Analysis, Oct. 2014**

Example- Good Life Bakery solution through Whole Grains



Solution for the Bakery Customer

- Offer a premium bread line that satisfies this segment's desire for a "healthier" option while delivering on their other critical needs
- Adapt to current assets without altering business model
- Positioning options with ingredient solutions
  - **"Made with Whole Grains", "Low-fat", "Gluten-free"**
    - *Standard ingredients (Combinations/variations of DATEM, SSL, Monoglycerides, Ascorbic Acid, Enzymes)*
  - **"No Artificial Preservatives"**
    - *Natamax B+ applied to the outside of the product for yeast and mold control, MicroGARD 910 which competes against synthetic calcium proprionate*
  - **"No Sugar Added", "Fiber-rich", "Added Fiber", "Good Source of Fiber", etc**
    - Polydextrose, standard ingredients
  - **"Clean Label" options using recognizable ingredients to improve perceived "Healthfullness"**
    - See flowchart and ingredient options

The Food Industry of the 21st Century

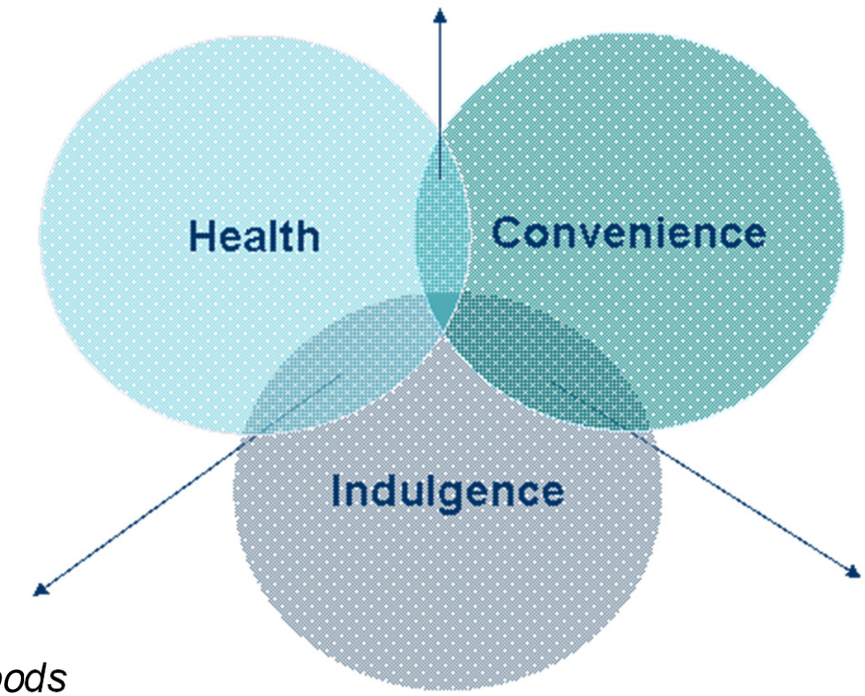
"Efficient Nutrition"
(Fast but nutritious and healthy)

Consumer "well being"

- food plus
- food minus
- natural/organic/whole grain
- vegetarian

"The Time Factor"

- More individual (portion) control
- More control over time and quality of preparation



"Guilt-free Indulgence"

(Start choosing foods that enable a healthier life.)

"Convenience Plus"
(Convenience with restaurant quality and entertainment value)

"The Sensory Experience"

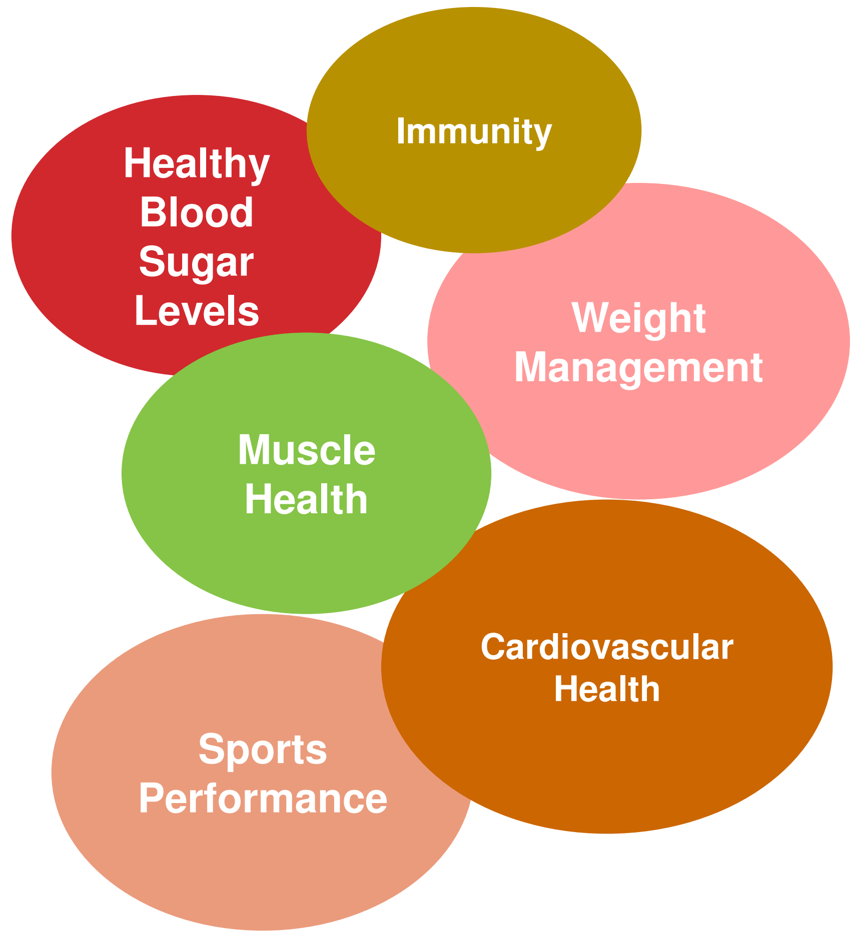
- More fun and entertaining
- More premium and indulgent
- More ethnic and exotic tastes Traditional tastes

No Compromise on Taste & Texture

Value adding food ingredients help deliver health & wellness benefits…

Case in point:

- Cultures and Probiotics: digestive and immune system benefits
- Soy Protein: support for heart health, appetite control (satiety), and muscle maintenance
- Functional Carbohydrates: sugar and calorie reduction; flavour enhancement; non-cariogenic dental benefits



Thank You……