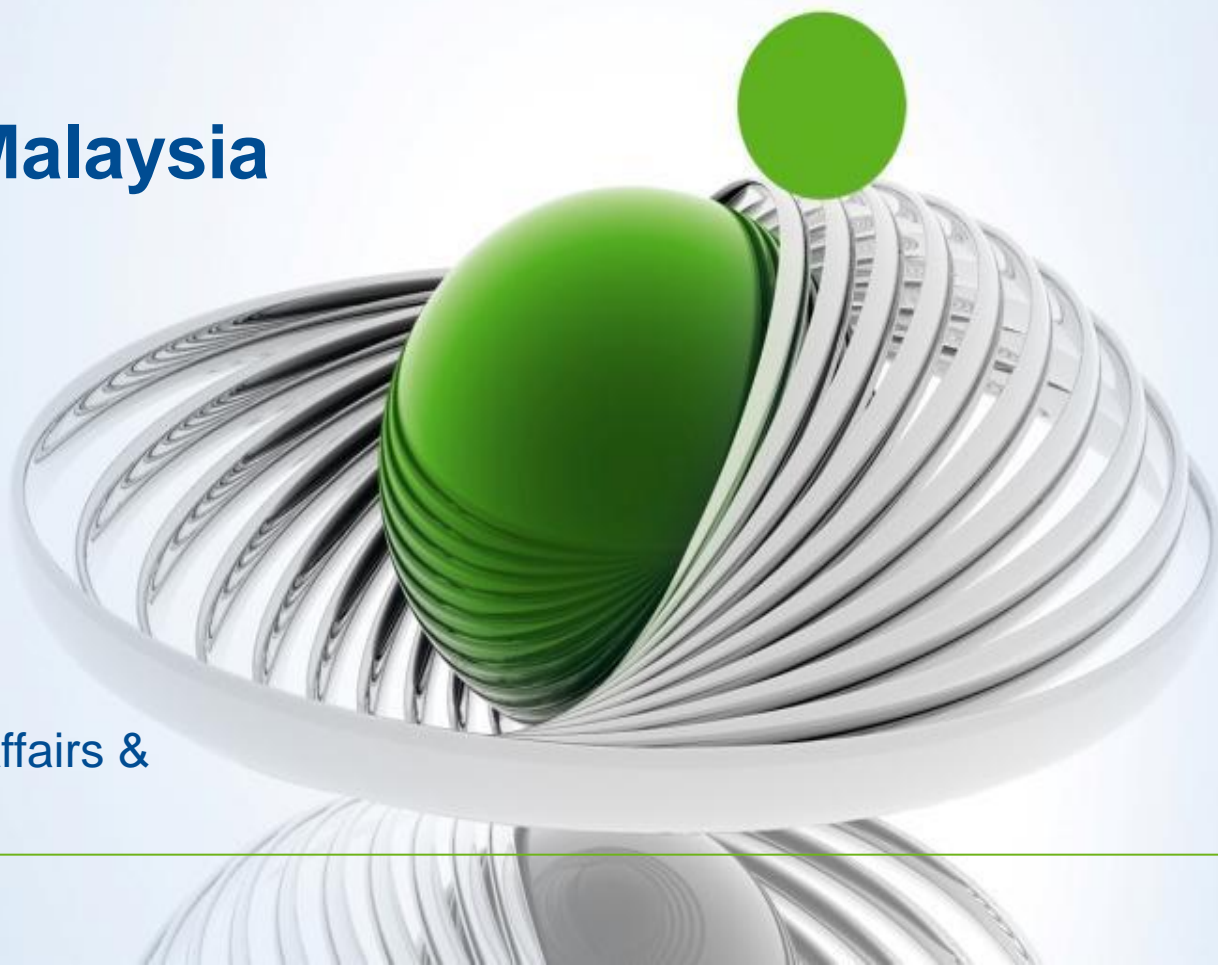


SEA-PHN Network meeting 1st June 2014

Kuala Lumpur, Malaysia

Anke Sentko

Vice President Regulatory Affairs &
Nutrition Communication



BENEO's ingredients



Matching today's expectations.

What do consumers expect from nutrition today?



To be **safe**

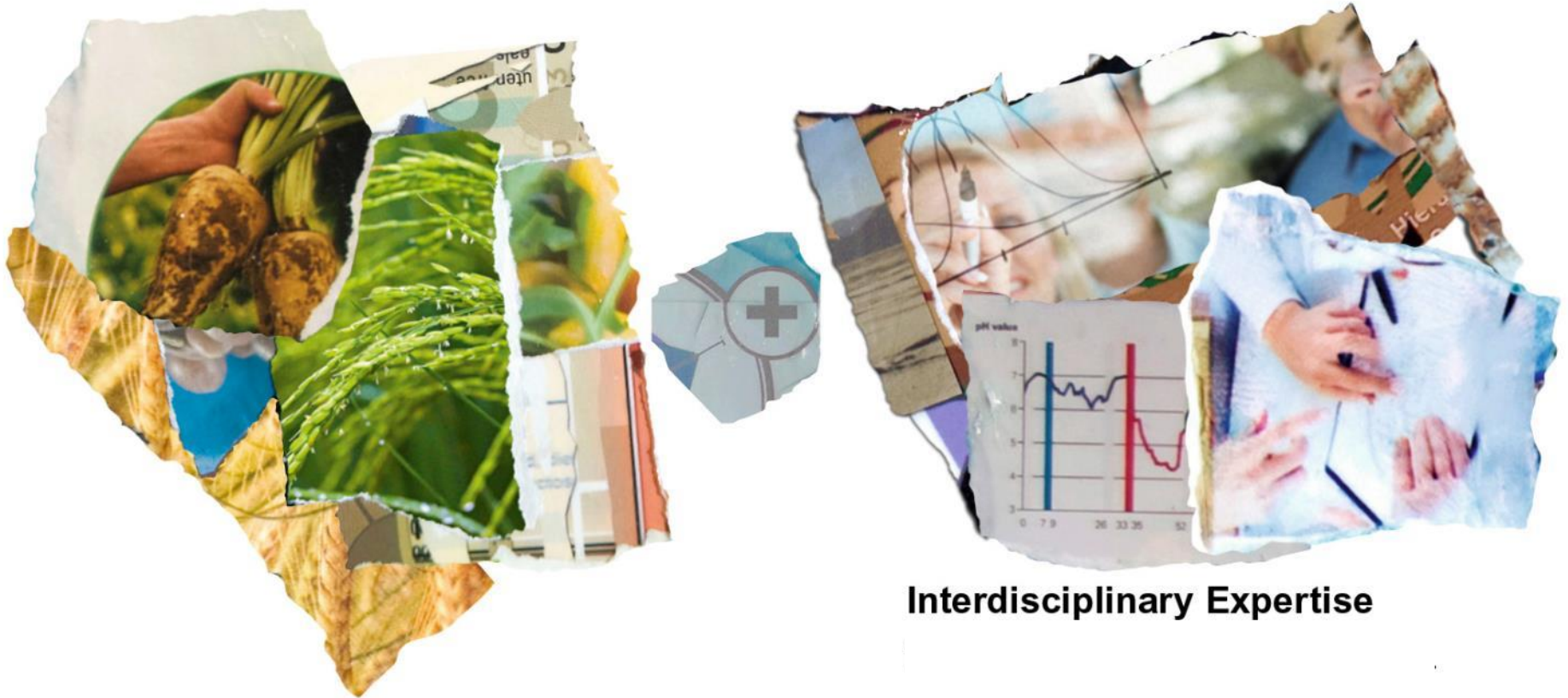
To be healthy

To be **tasty**

To be **convenient**

To be functional

Providing answers for today's nutrition.



Interdisciplinary Expertise

Smart ingredients from natural sources.



**Together,
we contribute to
better nutrition
and health.**

Caring for better nutrition worldwide.



Formed in 2007



900 employees



Active in more than 75 countries



6 offices (Belgium, Brazil, Germany,
Singapore, Spain, USA)



5 production sites
(in Belgium, Germany, Italy and Chile)



Member of the Südzucker Group

Discovering our range of nutrients and benefits.



Products

Prebiotic fibres

e.g. Inulin, Oligofructose, Synergy1

Functional carbohydrates

e.g. Palatinose™, Isomalt

Texturising ingredients

e.g. Rice starches, Rice flour

Natural sources

Chicory root



Sugar beet



Rice, wheat



Benefits

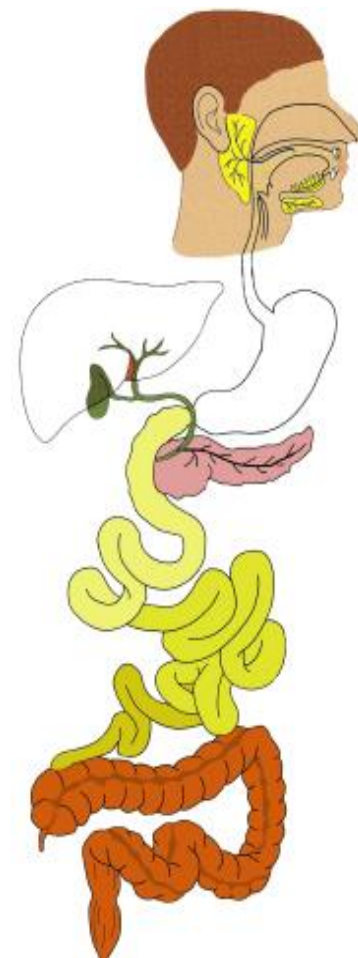
- Digestive health
- Fibre enrichment
- Better calcium absorption
- Weight management
- Fat & sugar replacement

- Low glycaemic effect
- Prolonged energy
- Toothfriendly
- Weight management
- Sugar replacement

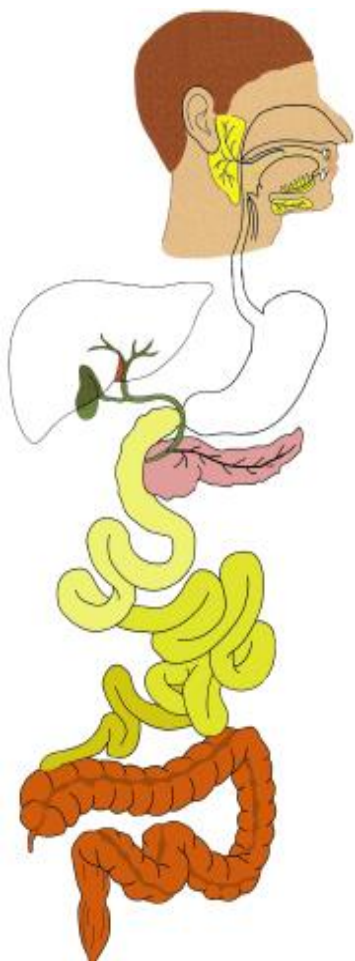
- Clean label
- Creaminess, crispiness
- Enhanced viscosity
- Tasty dairy substitution

Physiological Properties of Inulin-Type Fructans

<u>Type of key studies</u>		<u>Demonstrated Physiological Properties</u>
Mouth		Not fermented
Small Intestine		Not digested
	Glycemic response Insulin response	When replacing sugars/available carbohydrates → reduced glycemic response. Reduced insulin response
Large Intestine	prebiotic	Selective growth of in particular bifidobacteria
	Fully fermentable	Short chain fatty acid increase, pH ↓
	Bowel function	Improved bowel motor function, frequency
	Mineral	Increased calcium absorption & bone mineral density
	Gastrointestinal Tolerance	subjective perception of the increased gut activity might be noticeable at high intakes, but generally not disturbing
Metabolism	Weight management	energy intake ↓ Weight loss, influence on satiety, fat mass
	Inner resistance	Incidence of illnesses ↓
	Attenuation of glycaemia /insulinaemia – long term	Glycosylated haemoglobin and fructosamin, insulin resistance (HOMA)etc
	Calorie Reduction	When replacing starch, sugar or fat, reduces calories



Physiological Properties of Palatinose™



	<u>Type of key studies</u>	<u>Demonstrated Physiological Properties</u>
Mouth	pH-Telemetry	Does not promote dental caries
Small Intestine		
- Hydrolysis	Enzyme kinetics (in vitro)	Slow hydrolysis into glucose + fructose (4-5 times slower than sucrose)
- Absorption	Ileostomy-study	Virtually complete hydrolysis and absorption within the small intestine
	Blood glucose response	Slow increase, low glycaemic response Glucose (energy) delivery over a prolonged period of time
	Insulin response	Low insulin response
	Glycemic Index (GI)	GI= 32
	Incretins (gastrointestinal hormones)	GIP ↓; GLP-1 ↑
Large Intestine	Gastrointestinal Tolerance	No distress even at high levels (e.g.120g in a sports study).
Metabolism	Respiratory Quotient	Promotes fat burning
	Body Composition	Loss of body fat and body weight/ Prevention of weight gain

Nutrition & Health are strongly related!



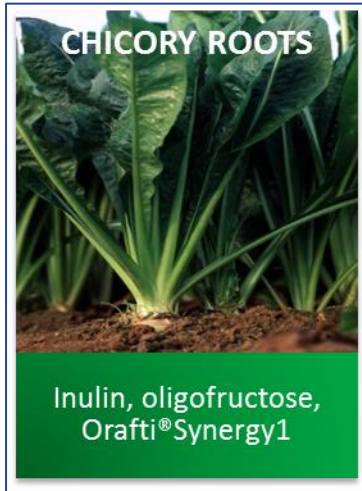
Small mistakes in what we eat on a daily basis will lead to major health problems later in life!

All population groups are important!

- **The older people get, the more obvious nutrition mistakes become**
- The scene is often already set in the first years of life
- Influences and changes in the right direction are useful throughout life!



BENEO ingredients and their contribution to a better and healthy nutrition



Reduced blood
sugar response

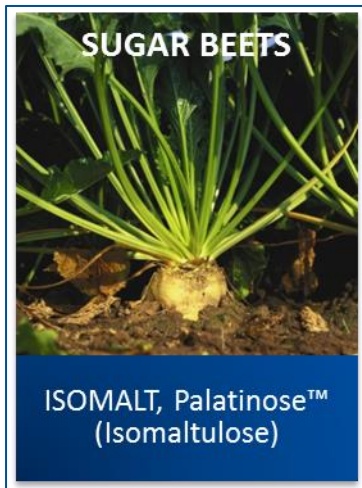
Low energy
value

Helps you to
eat less on a
long term

Regularity &
fermentation
benefits

Proven
prebiotics

Increased
Calcium
absorption &
stronger bones



Does not
promote dental
caries

Slow &
complete
hydrolysis and
absorption

Low glycemic
response and
low insulin
response

Prolonged
energy supply

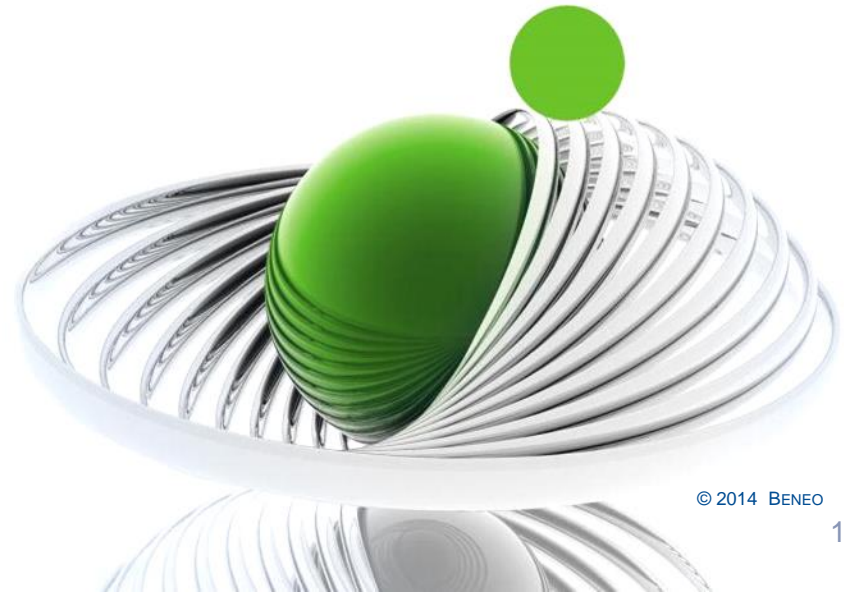
Supports fat
burning

Gastrointestinal
tolerance as
good as sugar!



BENEO commitment: connecting nutrition and health

The BENEO Institute



BENEO's Mission



connecting nutrition and health



The BENEIO-Institute – a network of minds



Foundation of the BENEIO-Institute in 2009

beneo^oinstitute

nutrition
science



nutrition
communication

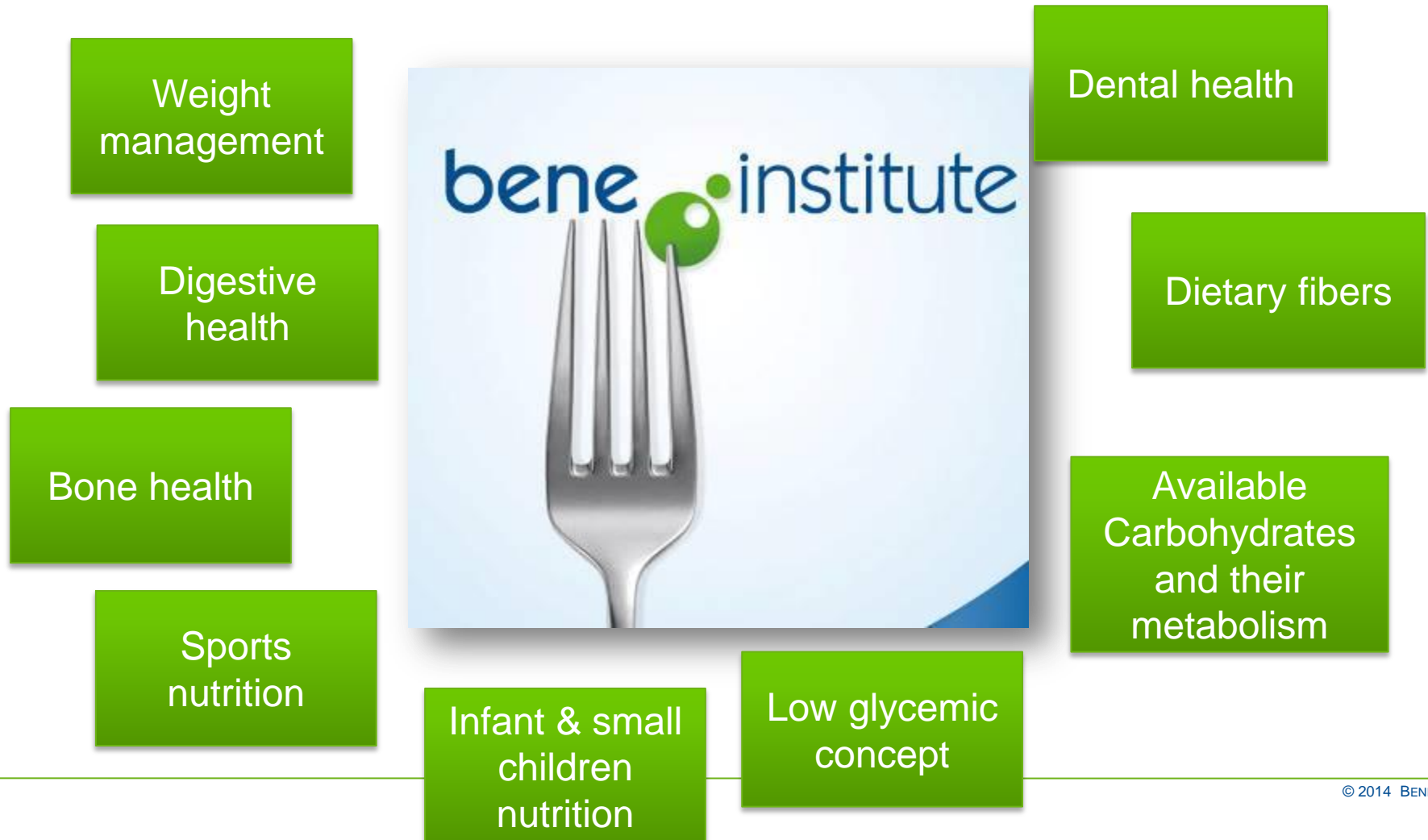


regulatory
affairs

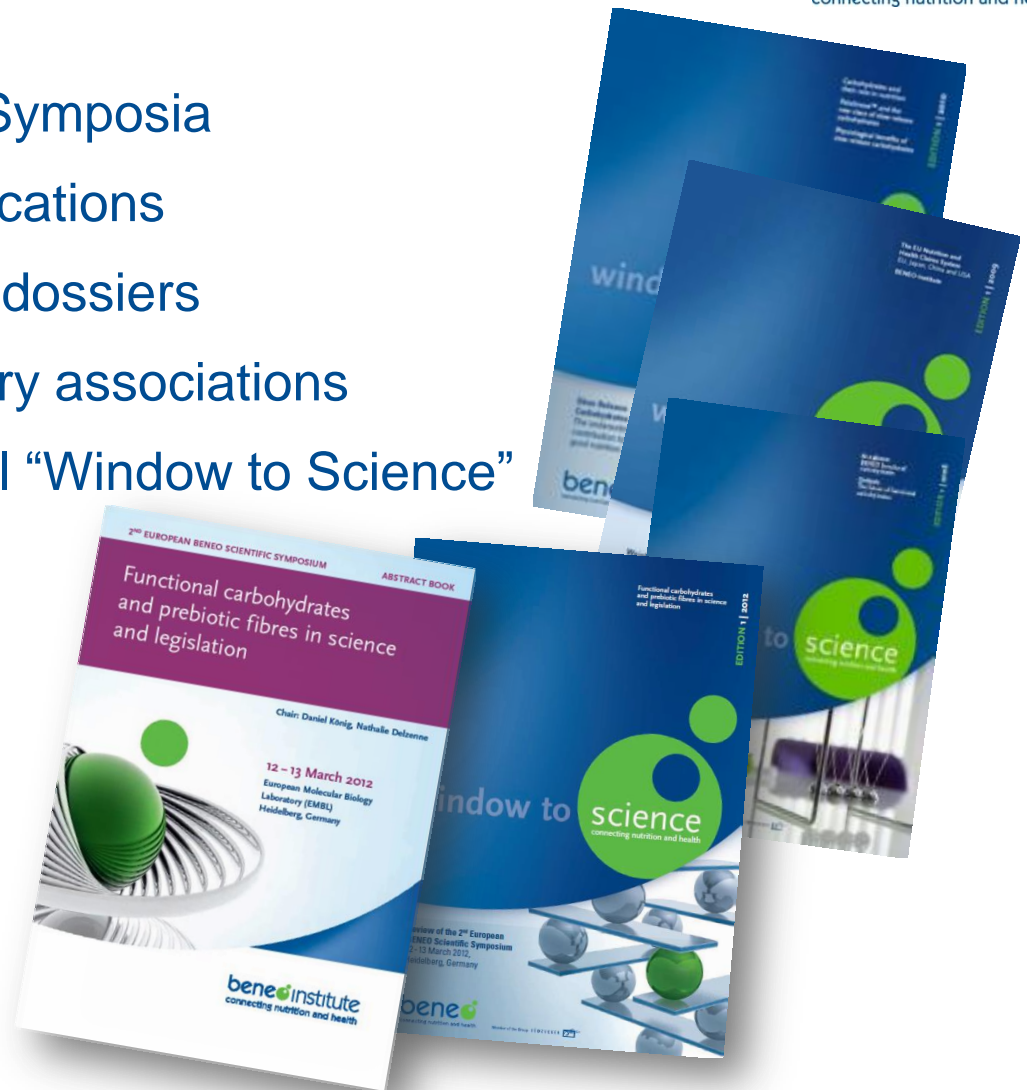


Topics of the BI....

The BENEIO-Institute focuses on topics that are important to our customers. This enables us to provide knowledge that is relevant to successfully develop food and beverages for tomorrow's consumers.



- BENEEO Scientific Research Symposia
- Peer-reviewed scientific publications
- Claims & ingredient approval dossiers
- Active memberships in industry associations
- Edition of the scientific journal “Window to Science”



Window to Science

Edition 1/2008

Edition 1/2009

Edition 1/2010

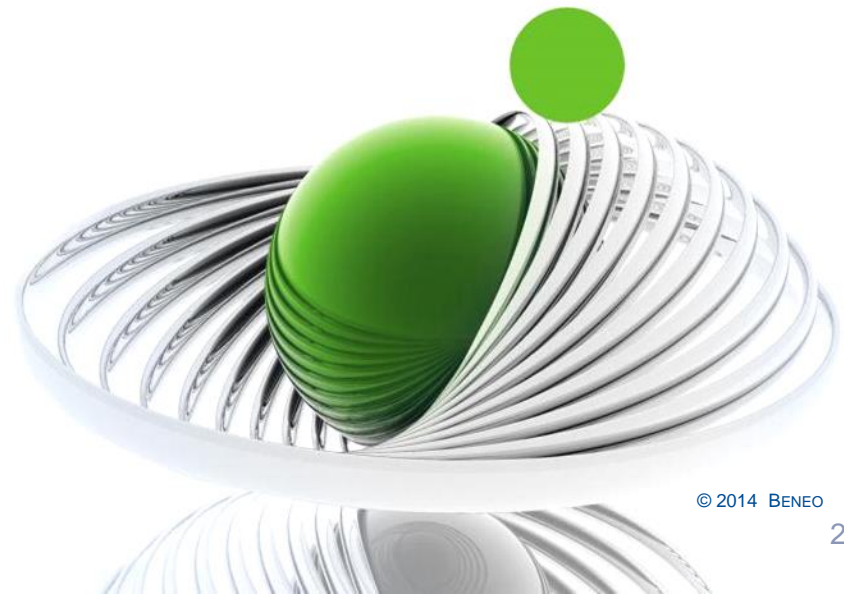
Edition 2/2010

Edition 1/2011



Edition 1/2012
2nd European BENEIO Scientific Symposium

Scientific Symposia and speeches Focus Asia Pacific



12th International Congress on Obesity

17th - 20th March 2014
Kuala Lumpur, Malaysia



BENEO Sponsored Symposium
“Weight management and the role of carbohydrates”
Tuesday, 18th March, 17.30-19.00h

Dr. Stephan Theis

(BENEO-Institute; Obrigheim / Pfalz, Germany)

Physiological diversity of carbohydrates

Prof. Jeyakumar Henry

(Singapore Institute for Clinical Sciences, Singapore)

Recent advances on the role of low glycaemic carbohydrates in weight management

Prof. Nathalie Delzenne

(Université Catholique de Louvain, Brussels, Belgium)

Interaction of prebiotic inulin-type fructans with the gut microbiota – from mechanism to human nutrition



2011: “Claims & Regulatory Status of Carbohydrates”



ILSI

Southeast Asia
Region

ILSI SEA Region Symposium Series
Carbohydrates, Whole-grains and Dietary Fibre
April 2011



2012:

“The Role of Functional Carbohydrates in Weight Management & a Healthy Lifestyle”

The FINEST Food Symposium and Exhibition is a collaborative effort between the Health Promotion Board (HPB), Agency for Science, Technology and Research (A*STAR), SPRING Singapore and the Singapore Food Manufacturers' Association (SFMA).



Agency for
Science, Technology
and Research



2012: *“Food Matrix – Nutrient Interaction: Inulin-Type Fructans and mineral bioavailability”*

Conference on
**Healthy
Aging in Asia**
Strategies to Meet Health
& Lifestyle Challenges

Singapore: March 2013

*“Functional Food and Ingredients – Scientific Updates
and Claims Related to Aging”*
by Prof. Jeya Henry

Organizer



Co-organizer



Collaborator



Conference on Non-Communicable Diseases:
**The Role of
Diet and Physical Activity
in Combating NCDs**

Organised by :



Co-organised by :



Malaysia: March 2013

“Fighting the Burden of NCD – Eat smart from early on – Prevent!”

“Promoting Better Nutrition For All”



Nutrition Society of Malaysia

beneoinstitute
connecting nutrition and health

28th Scientific Conference of the Nutrition Society of Malaysia,
29th-30th May 2013
“Promoting Better Nutrition For All”

**Better Nutrition from early on –
a smart ingredient choice is key!**



Anke Sentko, Vice President Regulatory Affairs & Nutrition Communication, BENEIO Institute
Koen Van Praat, Managing Director, BENEIO Asia-Pacific Pte. Ltd.

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28th Scientific Conference, Malaysia, May 2013:

“Better Nutrition from Early On – A Smart Ingredient Choice is Key!”

Nutrition Research Seminar, 06.12.2013, Singapore: Anke Sentko:

“The Quality of Carbohydrates – How Digestibility Steers Metabolism!”



Agency for
Science, Technology
and Research

CREATING GROWTH. ENHANCING LIVES.

CNRC

Clinical Nutrition
Research Centre
Singapore

NUTRITION RESEARCH SEMINAR

Jointly organised by
Clinical Nutrition Research Centre, SICS &
BENEIO Asia Pacific Pte. Ltd

Speaker: Anke Sentko



Anke Sentko graduated with a diploma in Nutrition and Economy from University of Bonn, Germany in 1982. Between 1982 and 1990, she worked at SÜDZUCKER responsible for research & development and food legislation. Subsequently, Anke became the Regulatory Affairs Manager at Palatinat GmbH, Germany responsible for approval processes of food ingredients, claims and pharmaceutical excipients. When BENEIO-Group was established in 2007, Anke was appointed as the Vice President in Regulatory Affairs and Nutrition Communication with global responsibility. The BENEIO-Institute was founded in 2009, combining nutrition science, communication and legislation. Anke is a frequent member of the German Delegation of the Codex Committee on Food Additives and Contaminants, Member of the German Food Law Association (BLL), Member of the German Nutrition Society (DGE), member of the board of the Calorie Control Council (USA) and active in a number of Associations and Societies in Europe and overseas.

The Quality of Carbohydrates – How Digestibility Steers Metabolism

Abstract:

With the silver tsunami ahead, obesity and diabetes become worldwide burdens. The conventional approach that “simple” carbohydrates are bad and “complex” carbohydrates are good is no longer physiologically accurate. It is time to develop a broader view and make changes to our understanding of carbohydrate metabolism. Physiology starts in the gut: Is it hydrolysed and absorbed? How quickly? To what extent? Availability due to small intestine absorption? All these have an influence on the blood glucose and the insulin profiles, the two major drivers of the metabolism. They also influence the energy metabolism significantly. This presentation will highlight some of the new insights into carbohydrate physiology and metabolism.

*Please RSVP by 29th November 2013
Lunch will be provided following the talk*

Date: 6th December 2013

Time: 12:00 – 1:00p.m.

Venue: Symposium Rooms 2 & 3, Block MD11, 10 Medical Drive,
Yong Loo Lin School of Medicine, NUS Singapore 117597

Host: Professor Jeya Henry,
Director of Clinical Nutrition Research Centre (CNRC), SICS, A*STAR





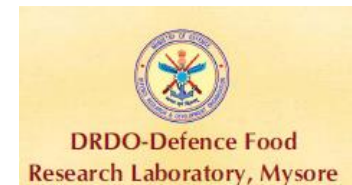
7th International Food Convention (IFCON)



7th International Food Convention (IFCON), 18.-21.12.2013 Mysore, India:

Anke Sentko

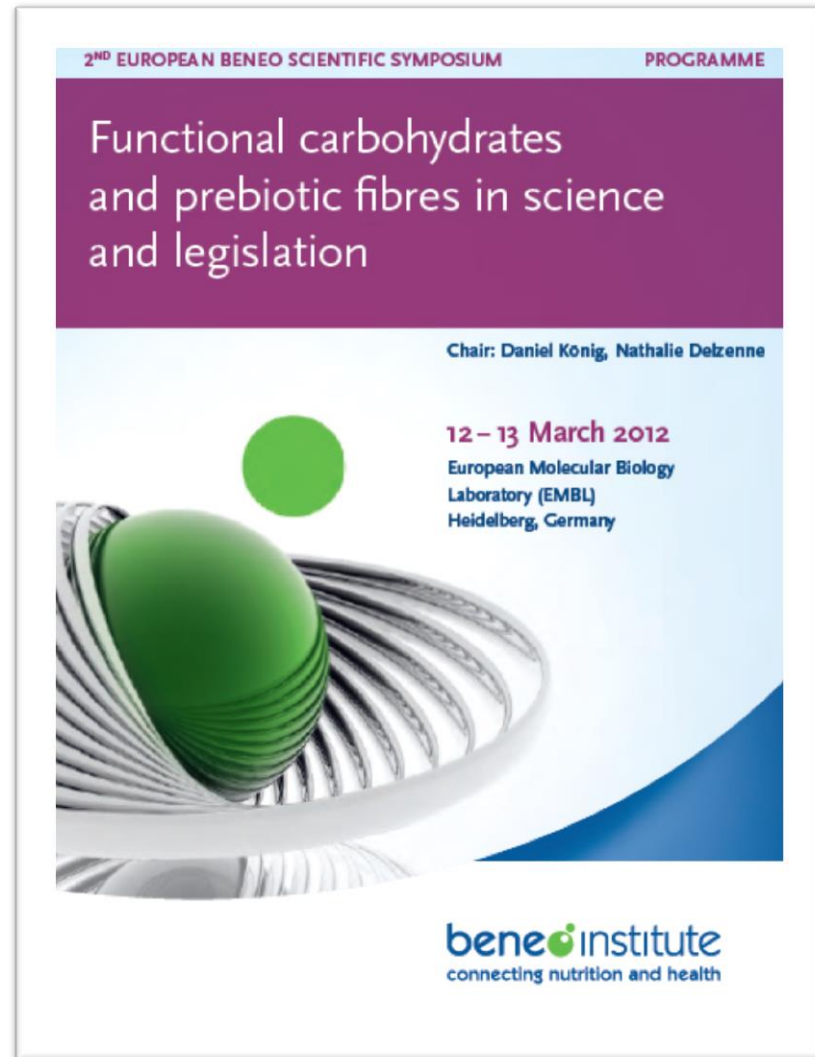
“Functional Carbohydrates in a Lower Glycaemic Diet and in Weight Management - A smart ingredient choice makes the difference!”



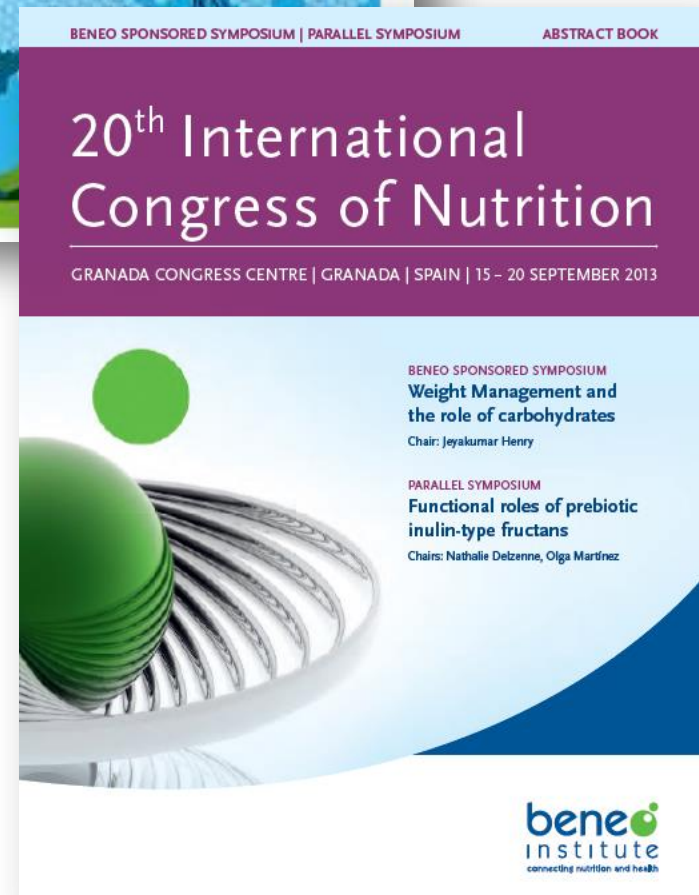
..... And other regions



EMBL Heidelberg (European Molecular Biology Laboratory)



2013: IUNS 20th International Congress of Nutrition, Granada, Spain



Two interesting symposia with highly respected international speakers!

BENEO Sponsored Symposium SPS 3-24 “Weight management and the role of carbohydrates”

Wednesday, 18 September, 5 – 7 pm, Room D

Chaired by Jeyakumar Henry

- **Dr. Stephan Theis**
(BENEO-Institute; Obrigheim / Pfalz, Germany)
Physiological diversity of carbohydrates
- **Prof. Jeyakumar Henry**
(Singapore Institute for Clinical Sciences, Singapore)
Recent advances on the role of low glycaemic carbohydrates in weight management
- **Prof. Bob Rastall**
(University of Reading, Reading, UK)
Obesity, microbiota and the effect of inulin type fructans
- **Prof. Dr. Raylene Reimer**
(University of Calgary, Calgary, Canada)
Prebiotic fibres and weight management

Parallel Symposium PS 4-54 “Functional roles of prebiotic inulin-type fructans”

Thursday, 19 September, 11:30am-1:30pm, Room C

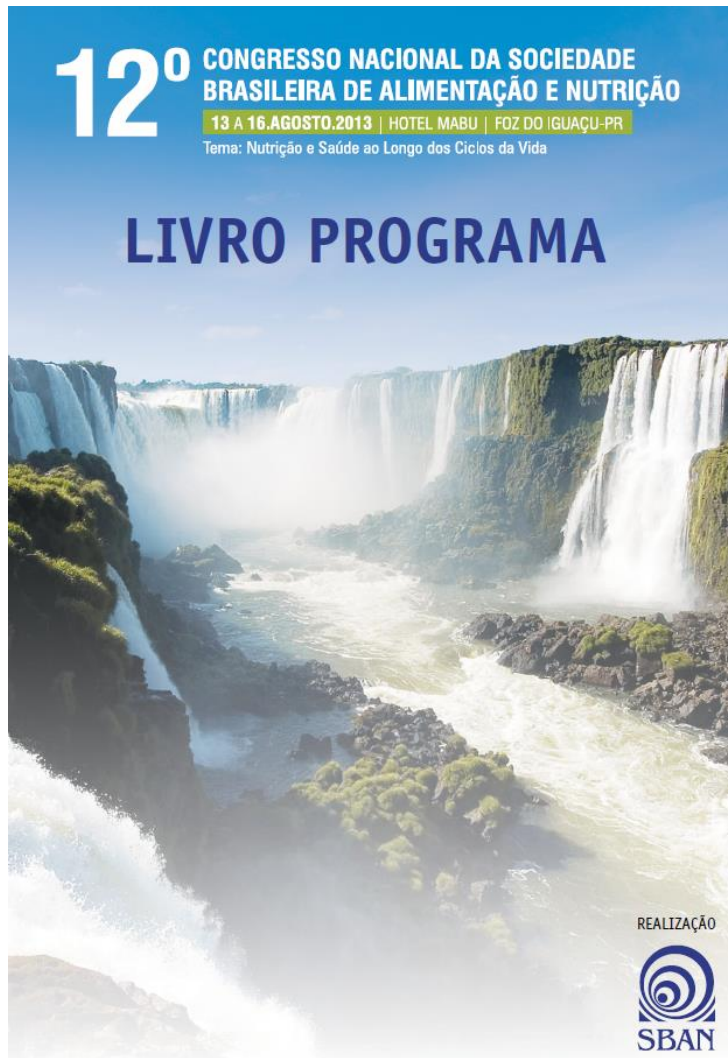
Chaired by Nathalie Delzenne & Olga Martinez

- **Prof. Bob Rastall**
(University of Reading, Reading, UK)
Prebiotic modulation of the human gut microbiota: Is it a health benefit?
- **Prof. Nathalie Delzenne**
(Université Catholique de Louvain, Brussels, Belgium)
Gut microbiota impact on metabolic disorders associated with obesity
- **Prof. Dr. Ricardo Closa-Monasterolo**
(Hospital Universitari Joan XXIII, Tarragona, Spain)
Prebiotics in infant nutrition
- **Prof. Dr. Raylene Reimer**
(University of Calgary, Calgary, Canada)
Role of prebiotics in regulating energy intake and body weight

12th National Congress of Nutrition, 13th-16th Aug.2013

Iguacu, Brazil

beneo
institute
connecting nutrition and health



ILSI session on Pre- & Probiotics

Prof. R.A. Rastall,
University of Reading (BENEO sponsored):

“The Underestimated Influence of the Gut Microbiota throughout Life: Health Support from Prebiotics”

BENEO-Institute Satellite Symposium:

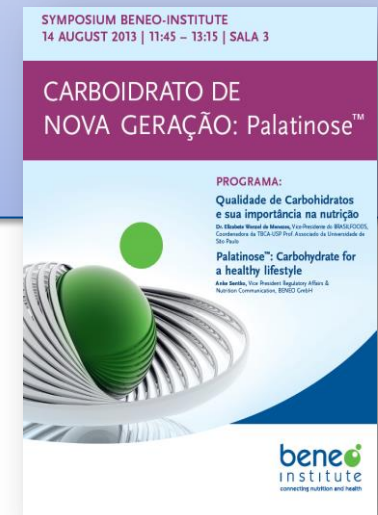
Anke Sentko, BENEO GmbH

V.P. Regulatory Affairs & Nutrition Communication:

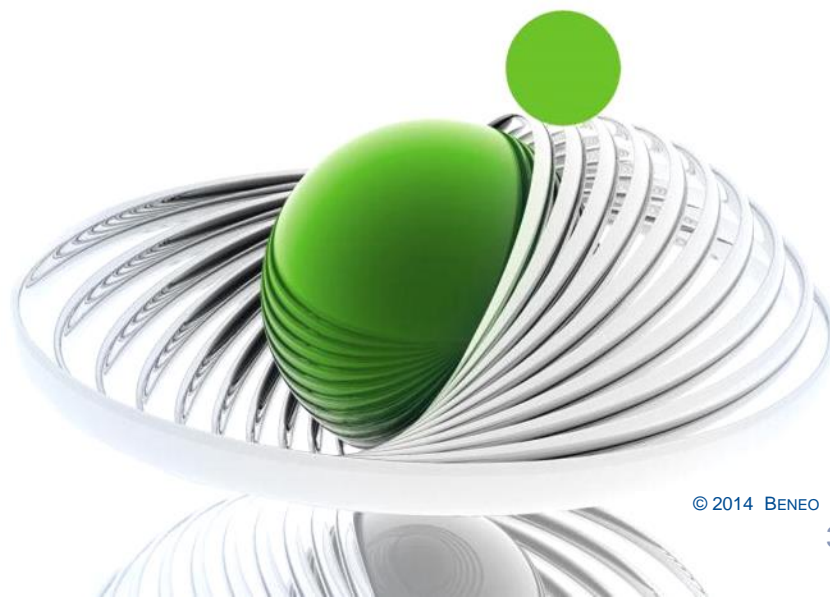
“Palatinose: Carbohydrate for a Healthy Lifestyle”

Dr. Elisbete Wenzel de Menezes,
Prof. Associado da Universidade de
Sao Paulo:

***“Qualidade de Carbohidratos
e sua importancia na nutricao”***



BENEO's views and expectations of being an associate member for future activities of the SEA PHB Network



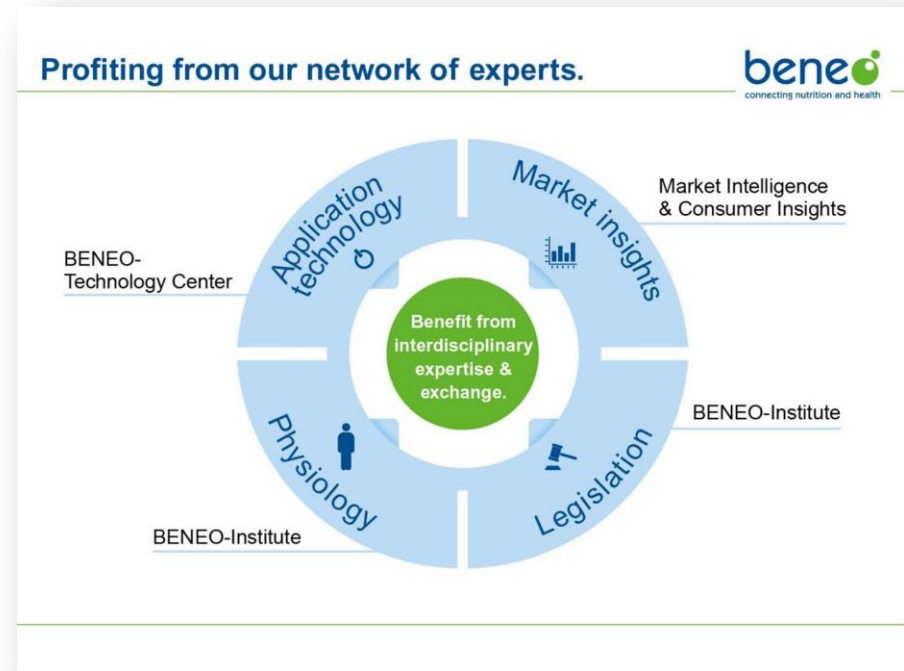
BENEO's expectations

- Knowledge sharing & education of health care professionals (HCP)
- Being a valuable and reliable source of information to the network
- A platform to exchange knowledge, discuss and develop



BENEO's expectations

- Support consumer awareness that
 - what you eat matters ...and
 - smart choices may make a difference!
- Working together with local HCPs, the local food manufacturers and national authorities to support health and good nutrition for a prevention oriented lifestyle



Thank you for your attention.

www.beneo.com
contact@beneo.com