Consumer Perspectives

Workshop on the Scientific Basis for Communicating Carbohydrate Quality

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Summary statement

- Consumers prefer positive attributes over negatives when making food choices

- Carbohydrate quality needs to be flexible and multifaceted to effectively communicate with consumer's highly personalized needs

Current consumer trends

10 Key Trends in Food, Nutrition & Health 2017

Published by NewNutrition Business

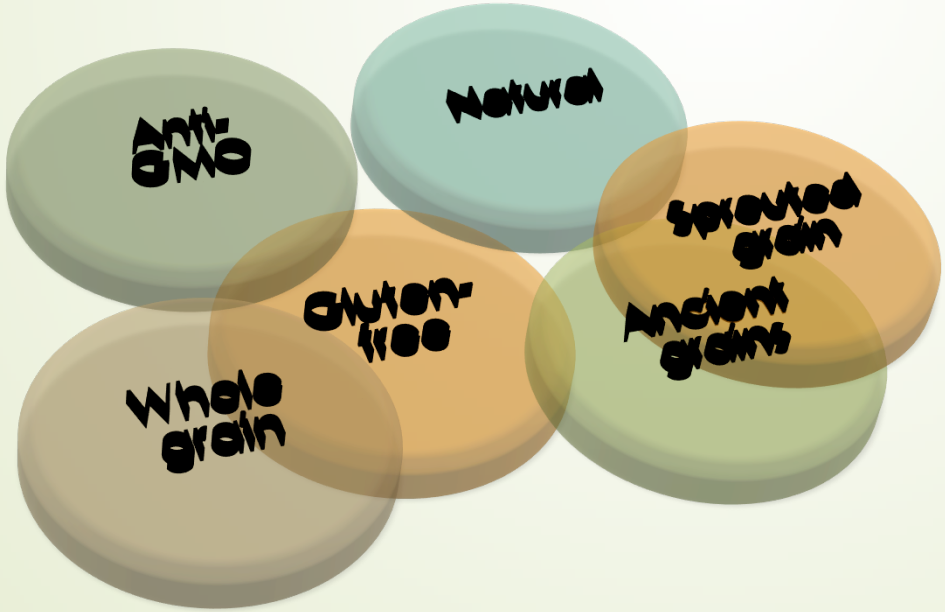
- Wide range of sources used to define enduring trends in the marketplace

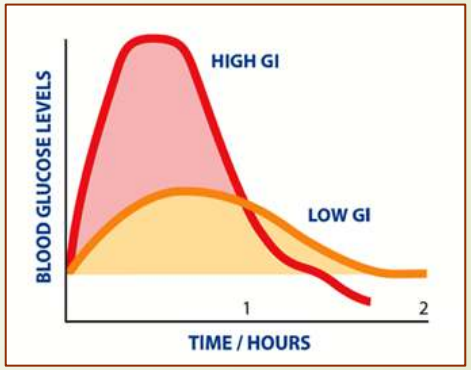
Overlapping trends

CARBS CONNECTS WITH ALL OTHER KEY TRENDS

Confusion – the 'churn' on carbs

- Focus on clean label and natural
  - Not over processed (eg. potatoes)
- 91% agree that WG are a healthy source of CHO (Health Focus)
- Often conflicts with low glycemic response
  - eg,. Panera bread – natural halo





How do consumers think about carbs?

Consumers' carb strategies:

GREENER CARBS

Increasing vegetables and fruit and/or replacing carbs in meals

FEWER "BAD" CARBS

Cutting down on "bad" carbs or increasing protein

ENERGY CARBS

Accepting carbs are good for energy and sports

Cauliflower rice

Spiralized zucchini & butternut squash

Sweet potato toasts

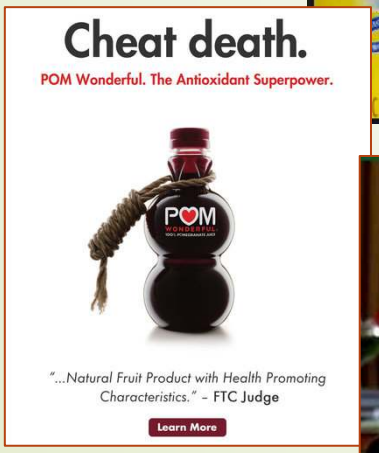
Granola energy balls

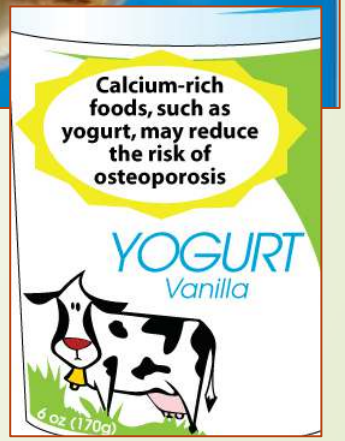
Soreen loaf for sports people

"You have to realise that as a potato you are a very complex carbohydrate."

Messaging to consumers

- Health claims
- Non-claim messaging

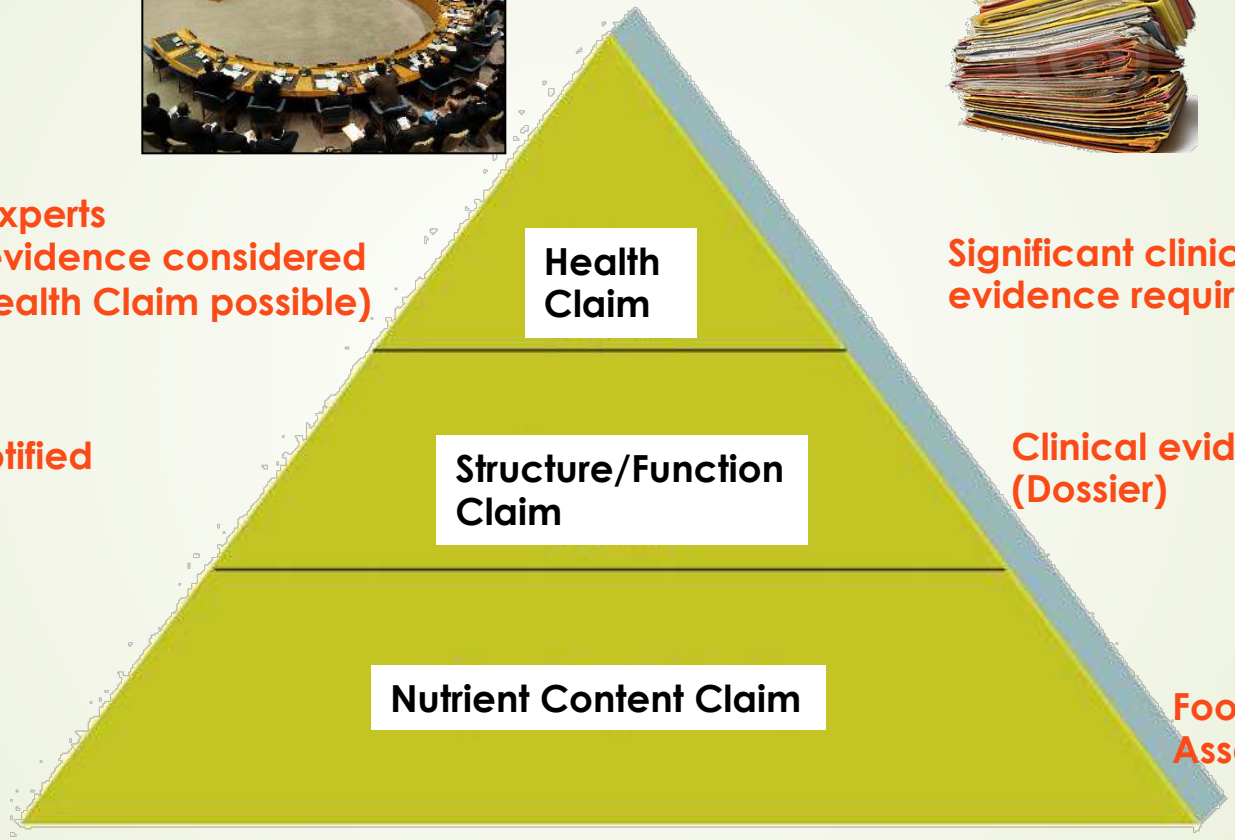




FDA – health claims

Review by experts
Strength of evidence considered
(Qualified Health Claim possible)

Significant clinical evidence required



FDA not notified

Clinical evidence (Dossier)

FDA not notified

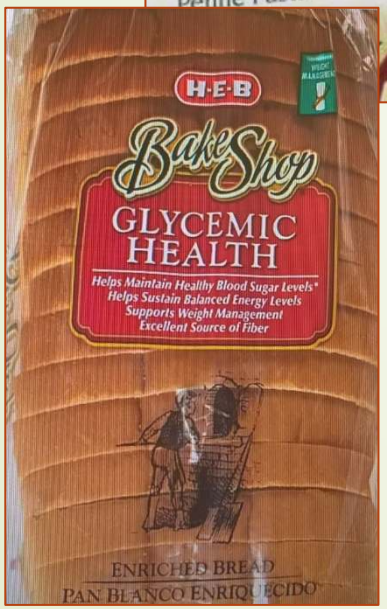
Food formulation
Assay methods

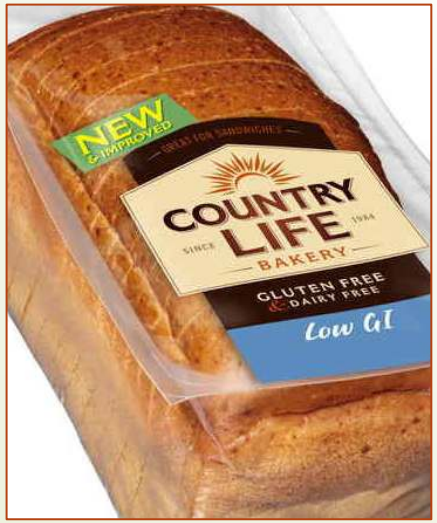
Carbohydrate messaging?

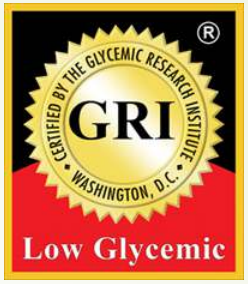
Content claims

Puffery

Messaging – physiological benefits?







sugar response. "Diabetic Lifestyles Bread", a 100% Sprouted Whole Grain recipe, was submitted for testing to the Glycemic Research Institute in Washington, D.C. and was clinically proven to be Low Glycemic with a Low Glycemic Load when fed to diabetics. Actual clinical results show a Glycemic Index of 5.0 on the glucose scale (0-100) and Glycemic Load of 0.9 per serving. Additionally, diabetics experienced a reduction in

Case study – low glycemic pasta

Dreamfields Offers $7.9 Million Lawsuit Settlement Over Low-Carb Pasta Claims

The Glycemic Response to Ingested Dreamfields Pasta Compared With Traditional Pasta

Frank Q. Nuttall, MD, PhD
Mary Carol Gannon, PhD
Heidi Hoover, MS, RD, LD
Jan Thurgood, BS

Volume 47, Number 5, September/October 2012

Nutrition Today®

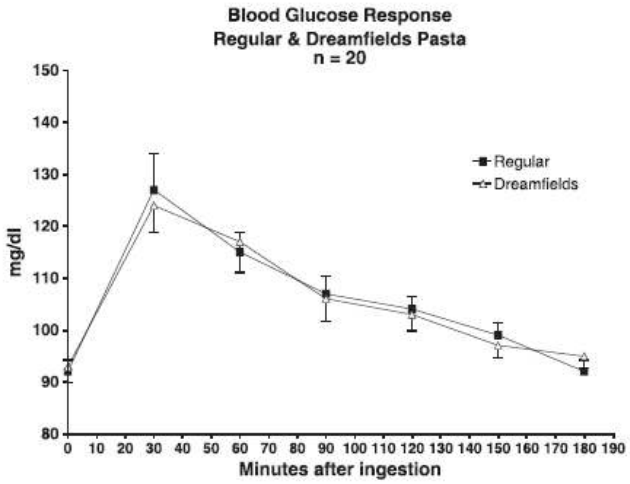


FIGURE. Blood glucose response following ingestion of pasta. n = 20 Subjects.

Glycemic and energy claims

Australia

United States

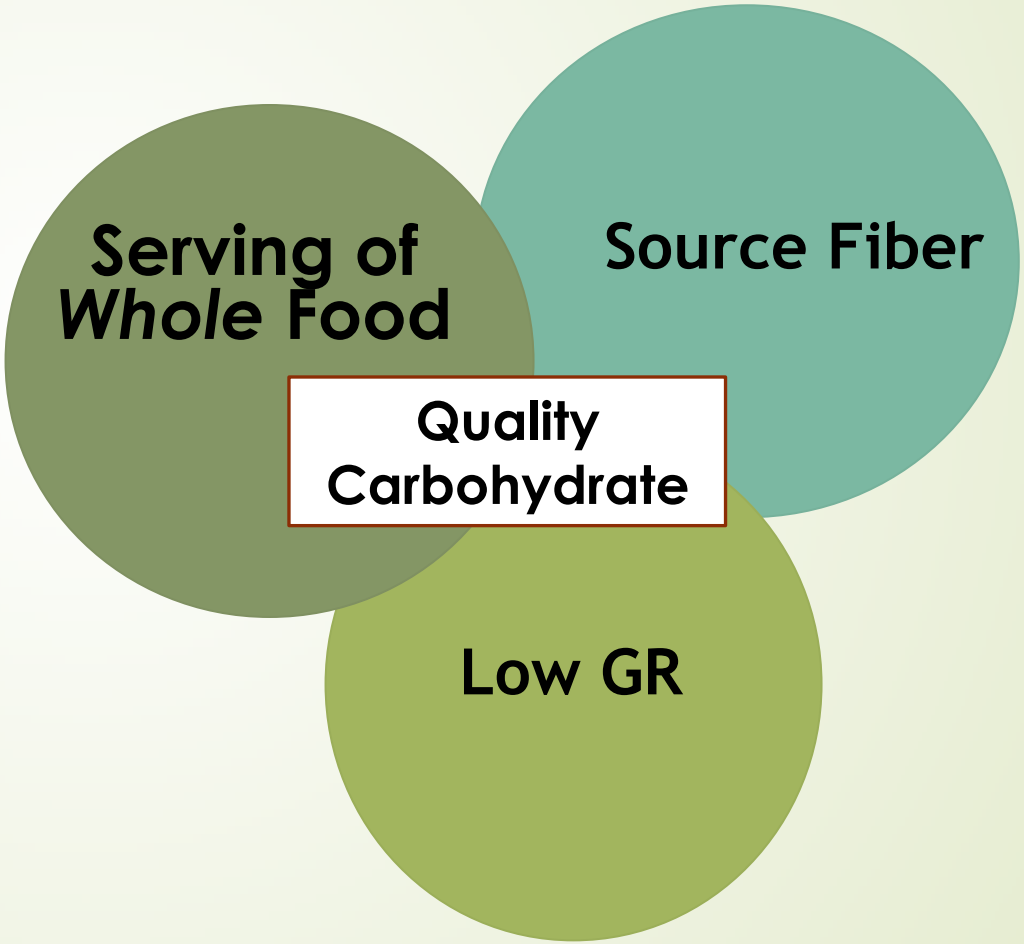
Consumer appeal of health messaging?

- Health messaging can make foods less apealling[1]
  - Lower ratings of product quality
    - eg. Bread, yogurt, pork
  - High (> 60%) "negative" or "very negative" ratings of products with disease prevention claims
    - Especially negative for CVD and cancer
- Content claims for fat, sugar and/or sodium[2]
  - Cheese – lower liking and expected liking
  - Potato chips and bars – health tradeoff depends on consumers' health motivation
- Organic – less tasty but more healthful[3]
- Kids – 4th and 5th grade – reduced-fat, whole grain and 100% juice claims
  - Preferred the healthier option > 50% of participants[4]
- Consumers prefer positive over negative messaging
  - Negative messaging can backfire[5]

1) Aarhus U. MAPP Centre for Research on Customer Relations in the Food Sector 2) Belgium and Netherlands 3) Cornell University 4) Berkley, CA 5) https://www.sciencedaily.com/releases/2016/01/160126085751.htm, Cornell University

How to communicate 'Good Carbs"?

- Strong trend for interest in 'good carbs'
- Overlapping trends
  - Often conflicting with low glycemic
- Weakest appeal for strictly blood glucose claims
  - Often associated with energy



Summary statement

- Consumers prefer positive attributes over negatives when making food choices

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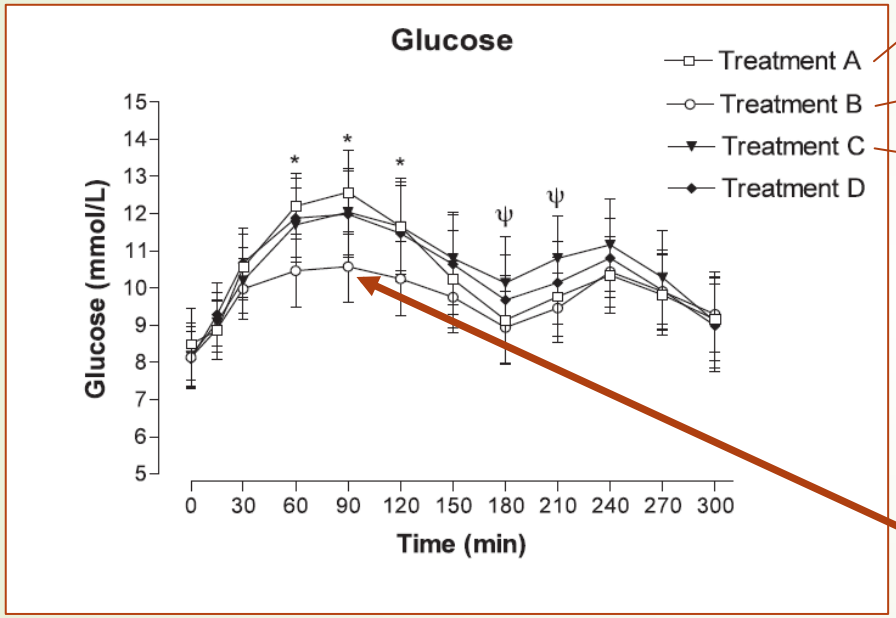
Appendices

Dietary fiber and GI vs PPG – bagel study example

Available CHO (g)



Control bagel

50

High-fiber bagel – **PPG**

31

High-fiber bagel – **GI**

50

Much lower glycemic response for high-fiber bagel of equal size (Treatment B)

Appl. Physiol. Nutr. Metab. 38: 1187–1195 (2013)

Resistant starch intake at breakfast affects postprandial responses in type 2 diabetics and enhances the glucose-dependent insulinotropic polypeptide – insulin relationship following a second meal

Stacey MacNeil, Rachel M. Rebry, Ian J. Tetlow, Michael J. Emes, Bruce McKeown, and Terry E. Graham

Dietary fiber and GI vs PPG – bagel study example

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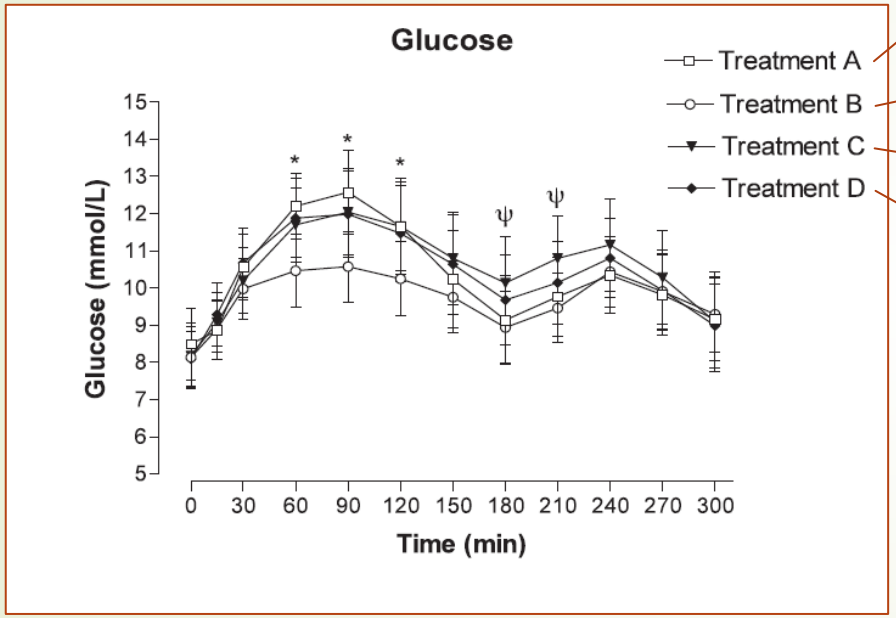

Control bagel 50

High-fiber bagel – **PPG** 31

High-fiber bagel – **GI** 50

Combination 50

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Bagel study example – cont'd

Table 3. Nutrient composition of study bagel treatments.

	Treatment A (control bagel)	Treatment B (RS bagel)	Treatment C (RS bagel)	Treatment D (combination bagel)
Energy (kcal)	282.07	254.15	408.19	360.60
Fat (g)	1.85	1.41	2.26	2.11
Total carbohydrate (g)	51.85	51.85	83.28	71.42
Available carbohydrate* (g)	50.00	31.13	50.00	50.00
Total dietary fiber (g)	1.86	20.72	33.28	21.42
Insoluble (g)	1.48	19.80	31.80	20.36
Soluble (g)	0.64	0.92	1.48	1.16
Sugars (g)	3.82	2.55	4.10	3.99
Total starch (g)	36.73	31.94	51.29	45.80
Resistant starch (RS) (g)	1.18	20.76	33.34	21.20
Protein (g)	14.47	8.37	13.44	13.83
Weight of control bagel (g)	106.04	0.00	0.00	40.02
Weight of RS bagel (g)	0.00	102.07	163.93	102.07
Total weight consumed (g)	106.04	102.07	163.93	142.09

Note: Values in this table were calculated based on analyses reported in Table 2.

*Available carbohydrate = total carbohydrate – total dietary fiber.