

Boosting Biofortification: Bridging Science, Practice, and Policy

Beyond Regulatory Harmonization and Labelling: Consumer Education,
Trust and Communication

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Joint RSSL-Biofortification Hub Workshop

RSSL

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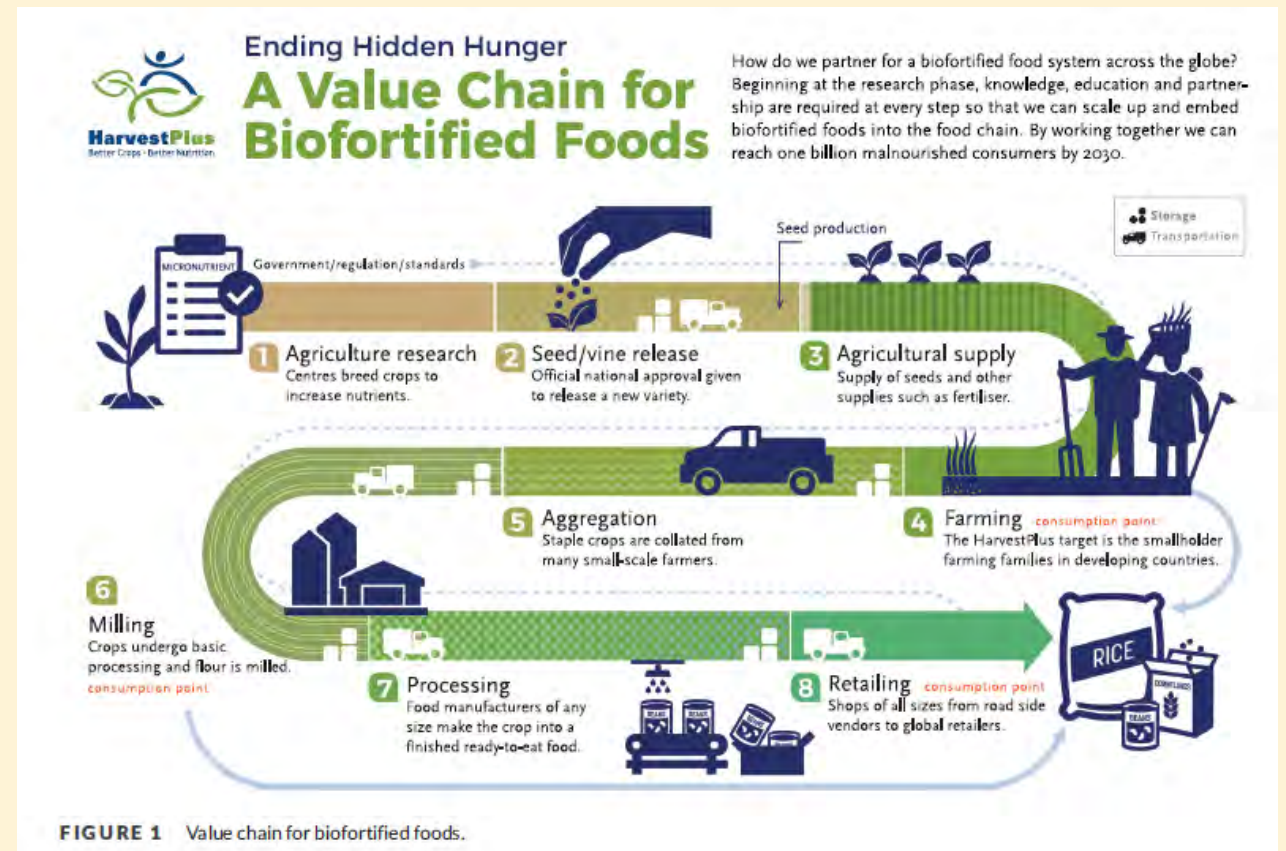


The Task

- Transform food systems
- Sufficient, accessible, acceptable, sustainable nutrition
- Novel production methods
- **Biofortification - unknowns:**
 - Consumer response? Adoption?
 - Consumer decision-making frameworks?
 - Regulatory harmonization?
 - Labelling - education, trust and communication

What's in a name?

- Counterproductive?
- Consumer confusion but high WTP
- 88% say naturally occurring vitamins = 'fairly'/'very' important
- Trend for clean labels
- Positioning is critical
- **Recommendations:**
 - Consumer protection
 - Nutrition and health claims
 - Don't use term Biofortification



Definitions?

“Biofortification, an increase in the nutritional value of plant foods obtained through conventional crop breeding methods or through crop genetic engineering techniques. This contrasts with postharvest fortification in which nutrients are added during processing”

- National Agricultural Library Thesaurus

Biofortification, “the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology. Biofortification differs from conventional fortification in that biofortification aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops”

- WHO

NB: Consumer confusion around ‘bio’ term in other countries (link to organic)

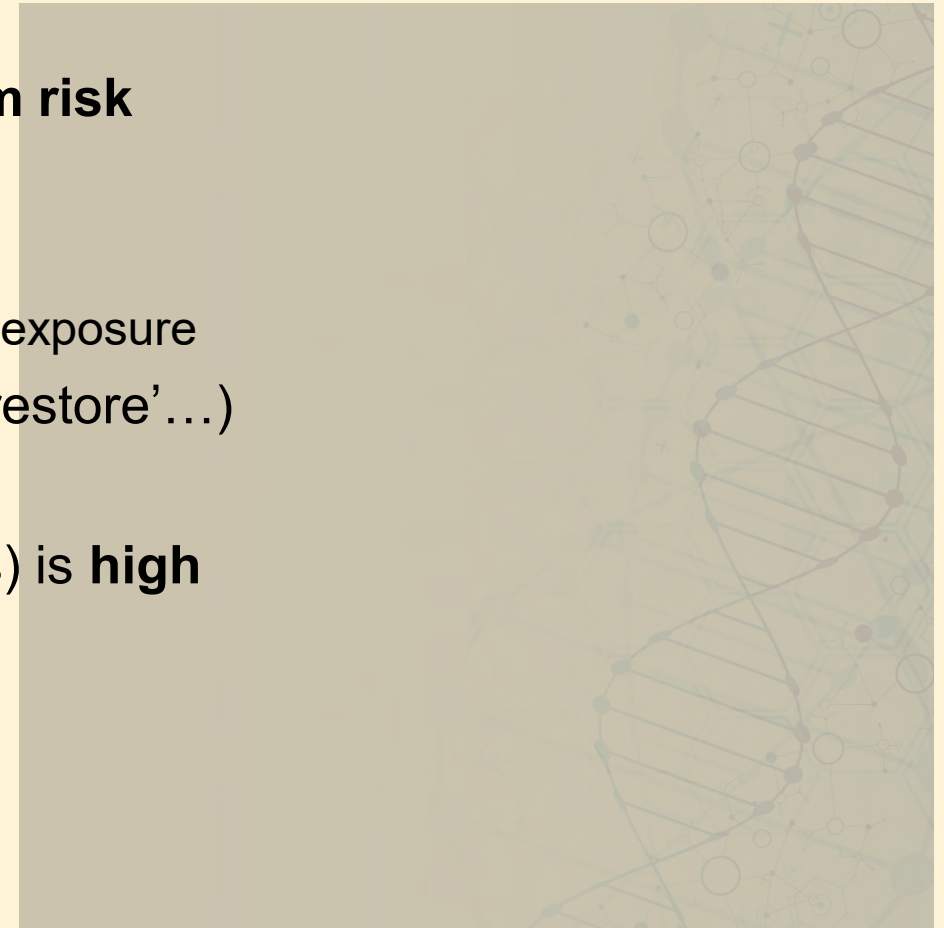
Regulation

- Not currently
- Enforcement mainly in HI countries
 - High volume/mass marketed foods
 - Triggered by health issues
- Advice needed for SMEs in LMICs



Risk Perception

- **Food risk** more important than everyday **non-food item risk**
- **Fear of excess micronutrient levels**
 - Toxicity – e.g. carotenoids => vitamin A
 - Additive impact of interventions – setting ULs for long-term exposure
- **Natural foods** - less risky, more healthy? ('replenish', 'restore'...)
- **Taste expectations** e.g. chocolate puddings
- **Perception of food risk** (e.g. pesticides, food additives) is **high**
 - e.g. low confidence in industry/government?
- **Food-related risks** are perceived as **higher** by:
 - Consumers vs Experts
 - Older vs Younger consumers
 - Women vs Men



Case study: 'Healthy Messaging?'



31 Oct 2024 – DSM-Firmenich's correction: "The original version of this story misstated the national origins of DSM-Firmenich, and mischaracterized Bovaer's FDA authorization. The company is Swiss-Dutch, not only Dutch; and the FDA determined Bovaer meets safety and efficacy requirements for use, but did not put it through the official approval process."

3 Dec 2024 X post, Reuters image: "So they're trying to silence him then as he predicted."



9 Dec 2024 – Reuters fact check: "A screenshot of an X post by British television presenter Gregg Wallace has been digitally altered to add a warning about cattle feed additive Bovaer and shared online"

26 Nov 2024 Arla press release announcing 90-day trial, at leading UK supermarkets, of additive to reduce cow methane emissions by 30-40%

14 Oct 2024 – 'Gregg tweet': "I have heard disturbing reports that a company associated with Bill Gates going to trial the poison addictive bovaer with large dairy companies in the UK. I'm going to uncover the truth, even if they try to silence me."

30 Oct 2024 – DSM-Firmenich's Bovaer: "the additive was green-lit by the FDA for use in the U.S. in May"



Major retailers join forces with UK dairy farmers to trial methane-reducing feed additives

Public response on social media with viral videos, despite statements from experts and approval/use in 68 countries, including UK, EU, Australia, Brazil & Canada



(14 May 2024 Gregg post – "The way to gain long term sustainable weight loss is by being good most of the time... this is good enough!")

Consumer Trust

- Consumer trust in the food system is **low**
- Consumer concerns:
 - **Trustworthiness** of food supply chain actors
 - **Food integrity, transparency, traceability**
 - **Food technologies**
- WHY low consumer trust is a major **barrier**?
 - Healthiness, authenticity and sustainability are perceived **values** that need to be **communicated** to consumers
 - Credible trusted communications will influence consumers to **adopt innovative** food products - that are healthier and produced in a more authentic and sustainable way

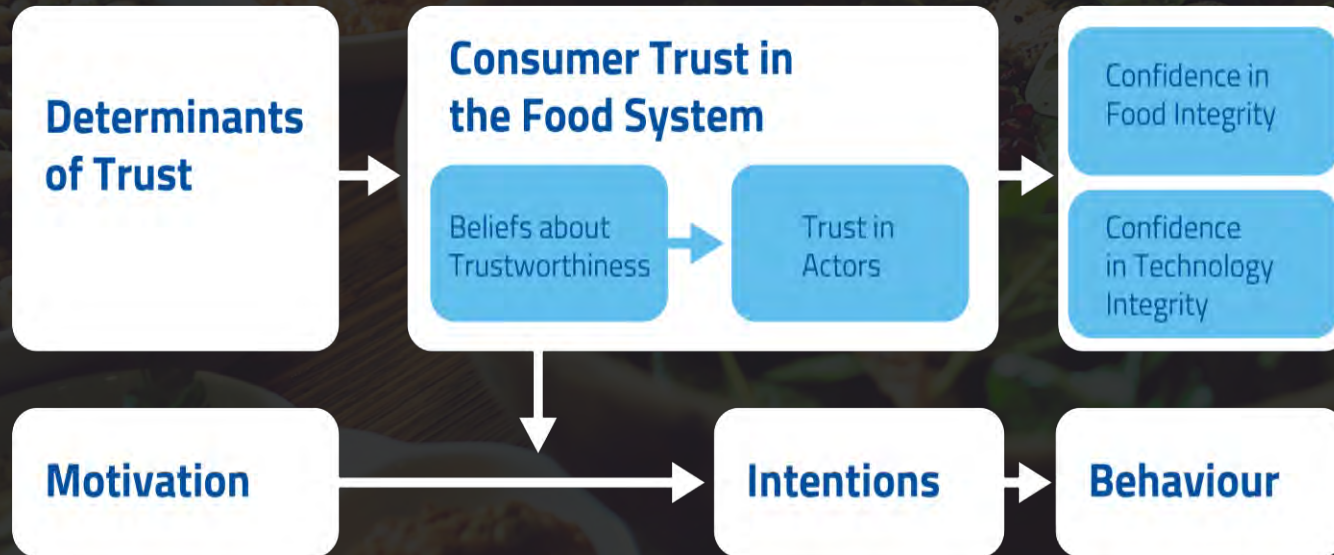




EIT Food TrustTracker(R) Online Survey



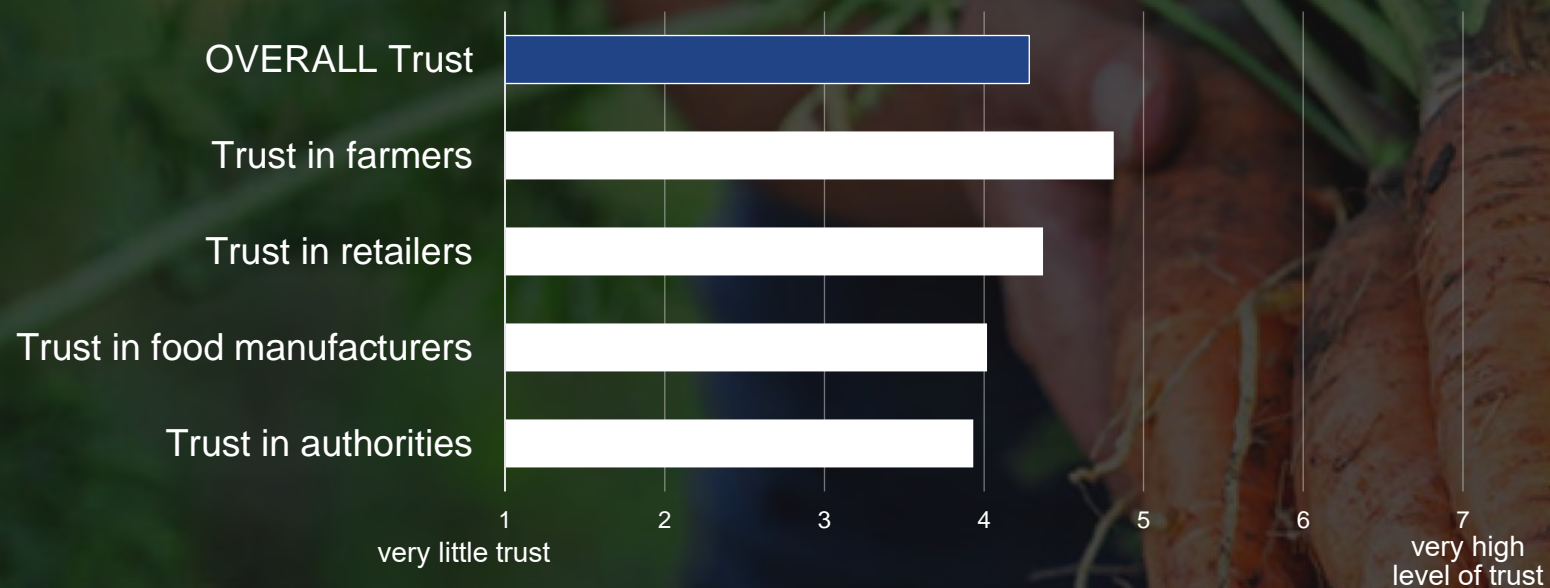
Scientific Model



European consumers in 5 countries trust FARMERS most, followed by Retailers



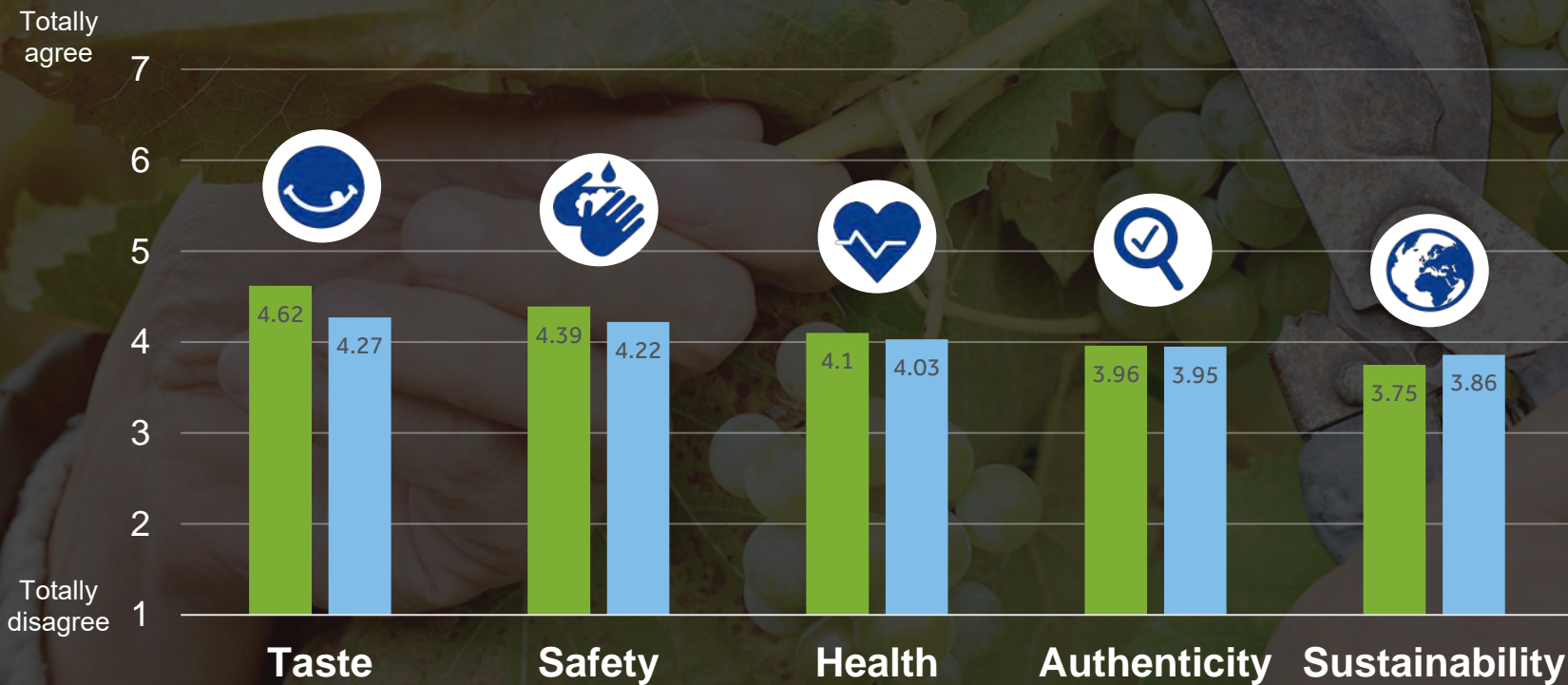
“How much trust do you have in the following groups regarding the production, selling and regulation of food?”



Figures display overall European mean values

European consumers are most confident in their food's TASTE and SAFETY, but least confident about its AUTHENTICITY and SUSTAINABILITY

"I am confident/satisfied/in general, food products/technologies are ... tasty/safe/healthy/authentic/sustainable."



Figures display overall European mean values

Policy Tools



Regulation needed to counter risk of excess micronutrient levels?

Coordination via labelling?
Health claims?
Education?



Acceptance (support) for 15 policies affected by:

Level of **intrusiveness** – higher level, less support
Food health & sustainability knowledge
Personal involvement = high for food

Countering Resistance



POSTPONE: Economic risk
/ usage patterns

- Focus on lifestyle fit:
 - Access
 - Availability
 - Convenience



OPPOSE: Economic, social
and functional risk,
including sensory appeal

- Extensive labelling
- Increase traceability of ingredients
- Increase sensory appeal
- Quality assurances
- Education of the consumer's social environment
- Increase consumer trust
- Celebrity endorsement



REJECT: Conflicts with
usage patterns, social,
functional and physical risk

- Change the innovation
- (for physical risk)
Consumers are most likely to believe experts and independent sources

Looking Forward



- **Trust leads to confidence** in food integrity - when trust is strong, healthy (and sustainable) innovations can be implemented
- **Openness (activities, information, honesty)** makes the biggest difference in building trust and confidence, but words should be chosen with care
- **Information is the least invasive** public policy tool
- For consumers, **food has high personal involvement** - though less so for vegetables vs meat and dairy - so innovation may meet with resistance
- **Consumers have more faith in other consumers** than in companies (*if information is not misrepresented or missing)
- **Familiarity and exposure:** Key motivations for acceptance of foods. Opportunity for mainstream education in nutrition, health and food sustainability?

Recommendations

- **Support from/for industry** – profitable nudges towards healthy AND sustainable diets (better education, on-board supply chain)
- **Don't leave it all up to the experts** - consumers may have higher risk perceptions than experts so involve the consumer in risk assessments
- **Emphasise experiential benefits** (e.g. tastiness, safety and health) alongside things people are *less confident* and *more uncertain* about, e.g. authenticity, sustainability, innovation
- **Consumers** are least motivated towards innovative products, however they are most strongly *motivated* towards sustainability and health, with the strongest *intentions* towards healthiness
- **Trust is crucial** - Trust helps to **counter uncertainty** e.g. turn motivations towards *healthy* and *novel product* (*biotechnology?*) adoption into intentions



Thank you for listening