

The Fiber Revolution: How America's Most Overlooked Nutrient is Reshaping CPG

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The Fiber Revolution: How America's Most Overlooked Nutrient is Reshaping CPG



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Beyond Soluble and Insoluble: The New Science of Fiber



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Matt Amicucci, PhD

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15 Years Dedicated to Fiber's Complexity

"The Mission: To untangle the structure-function relationship of dietary fiber for predictable health outcomes."



Academic Foundation

BS in Food Science and PhD in Agricultural Chemistry from UC Davis, with specialization in complex carbohydrates, polysaccharide architecture, and their biological activity through the microbiome.



15 Years of Structural Mapping

Dedicated a career to systematically mapping the diverse structural landscapes of dietary fibers — cataloging how molecular differences translate to radically different physiological outcomes.



The Glycopedia

Created the world's largest database of fiber structures, directly linking molecular architecture to functional outcomes — a first-of-its-kind resource for the field of nutritional science.

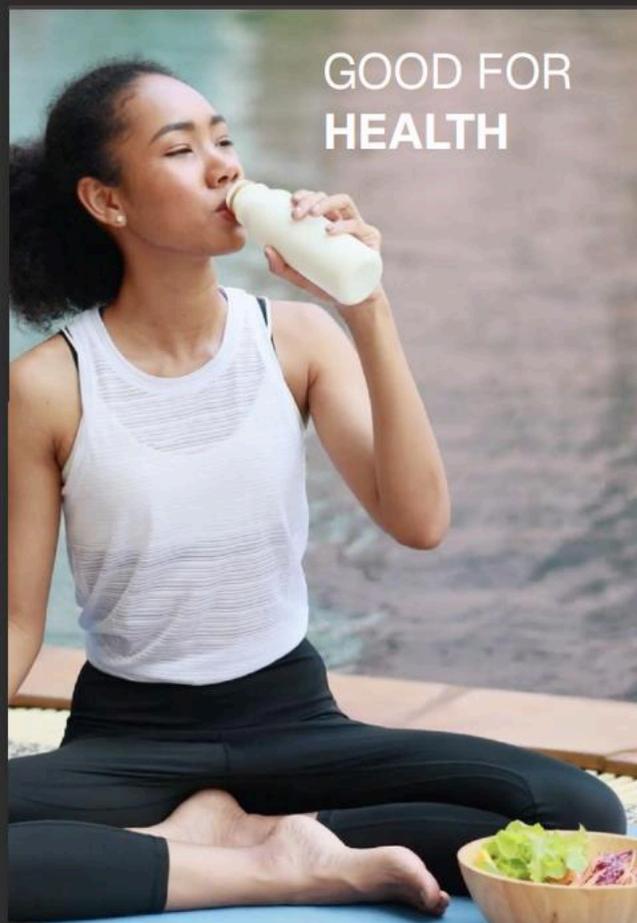
Our Presenter



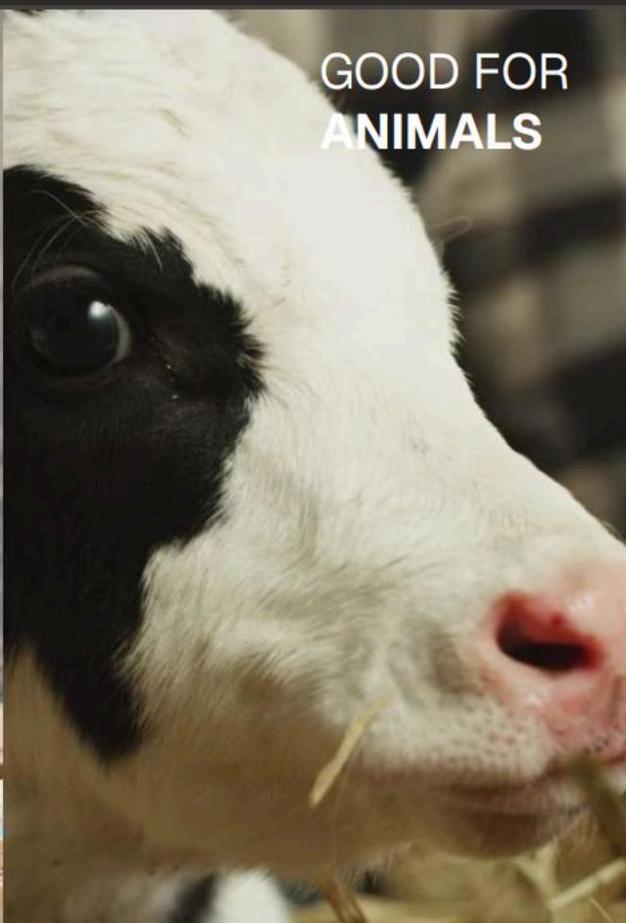
Jessica Maniscalco

Director, Retail Partners

For the past 25 years, **SPINS** has been powering and defining the natural products industry.



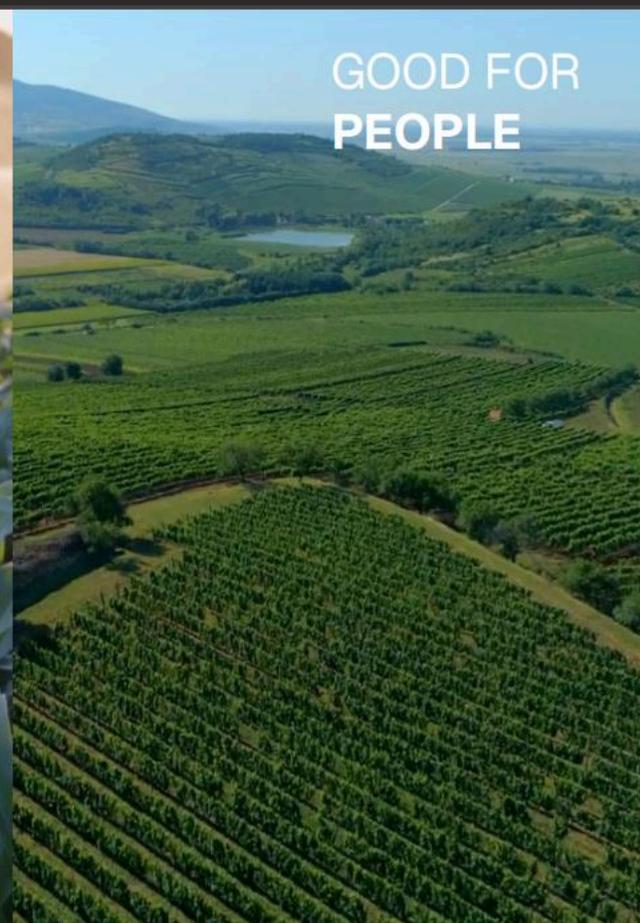
GOOD FOR
HEALTH



GOOD FOR
ANIMALS



GOOD FOR
PEOPLE

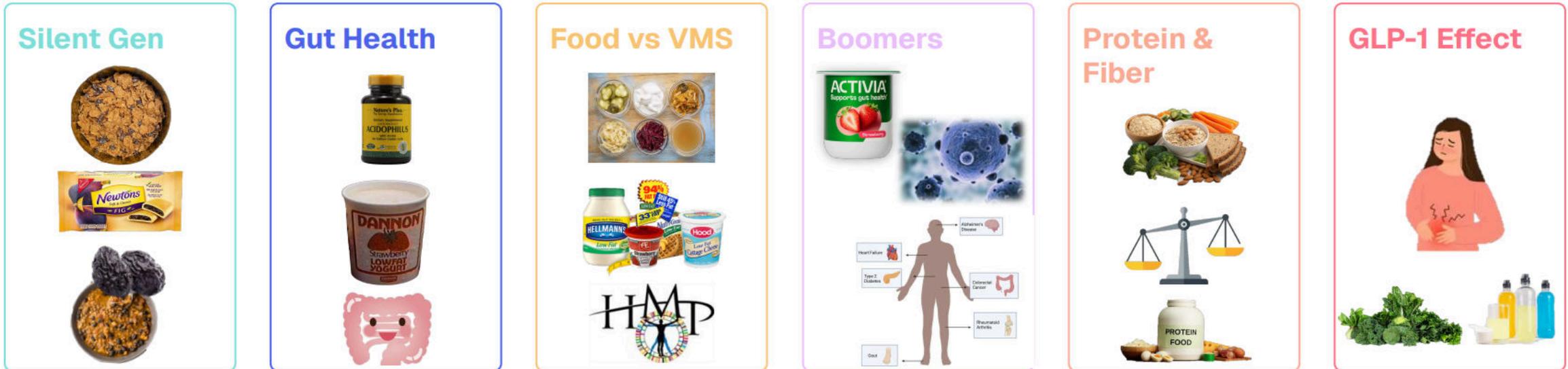


GOOD FOR
PEOPLE

Why Now?

How'd We Get Here?

Fiber Trends Over Time



The Fiber Story We've Been Told: Soluble vs. Insoluble

For decades, nutrition science has organized dietary fiber into just two broad categories. It was a useful simplification — but new tools and understanding demands modernization

Soluble

Gels in water, helps lower cholesterol.

Insoluble

Doesn't dissolve, supports regularity.

- ❏ **The Problem:** This simple story, while helpful, overlooks the most important signals our food is trying to send us. Reducing fiber to two categories discards millennia of nuance encoded in molecular structure — nuance that drives vastly different metabolic, microbial, and physiological responses to dietary fibers.

Fiber is a *Language*, Not a Category.

There are dozens of unique fiber structures in our food system — and like the rest of biology, **structure dictates function**. What a fiber molecule looks like determines everything about what it does.



Solubility & Texture

Molecular structure governs how a fiber interacts with the food matrix. This determines mouthfeel, viscosity, and product texture.



Prebiotic Selectivity

Molecular structure determines which microbial species have the enzymatic "keys" to ferment it, enabling precision targeting of beneficial bacterial communities.



Tolerability

Fermentation rate, chain length, and branching patterns dictate whether a fiber is gentle and well-tolerated.



Stability

Backbone chemistry and linkage types determine resistance to heat, acid, and processing — critical factors for real-world formulation.



Felt Benefits

Molecular structure determines the health outcome a consumer experiences — from satiety and glycemic response to immune modulation and mood.

The Fiber Market Is Built on Compromise

Every major fiber ingredient category available today forces formulators to make trade-offs between naturalness, performance, tolerability, and prebiotic efficacy. None of them solve the whole problem.

CATEGORY 01

Whole-Source Fibers

Psyllium husk, flax, chia, wheat bran

✓ Pros

- Natural origin and minimally processed
- High bioactivity and diverse microbiome impact
- Strong consumer trust and label appeal

× Cons

- Highly viscous — challenging in beverages
- Gritty texture limits product applications
- Off-flavors disrupt sensory profile

CATEGORY 02

Rapidly Fermented Fructans

Chicory root, inulin, agave, FOS, scFOS

✓ Pros

- Natural, plant-derived sources
- Well-established prebiotic evidence base
- Moderately formulable in many applications

× Cons

- Rapid fermentation can cause gas and bloating
- Unstable in acidic or high-heat environments
- Dose limitations compromise efficacy

CATEGORY 03

Synthetic Dextrins

Tapioca/cassava fiber, soluble corn fiber, wheat dextrin

✓ Pros

- Highly formulable across product types
- Clear, neutral — no impact on taste or texture
- Shelf-stable and acid-resistant

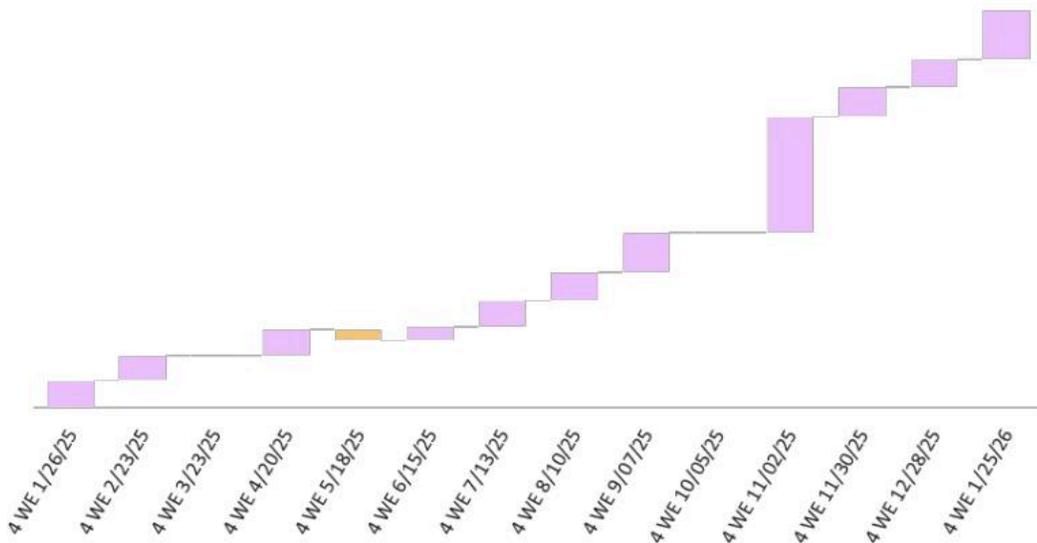
× Cons

- Synthetically derived — clean-label challenges
- Limited or weak prebiotic effects
- Minimal metabolic signaling value

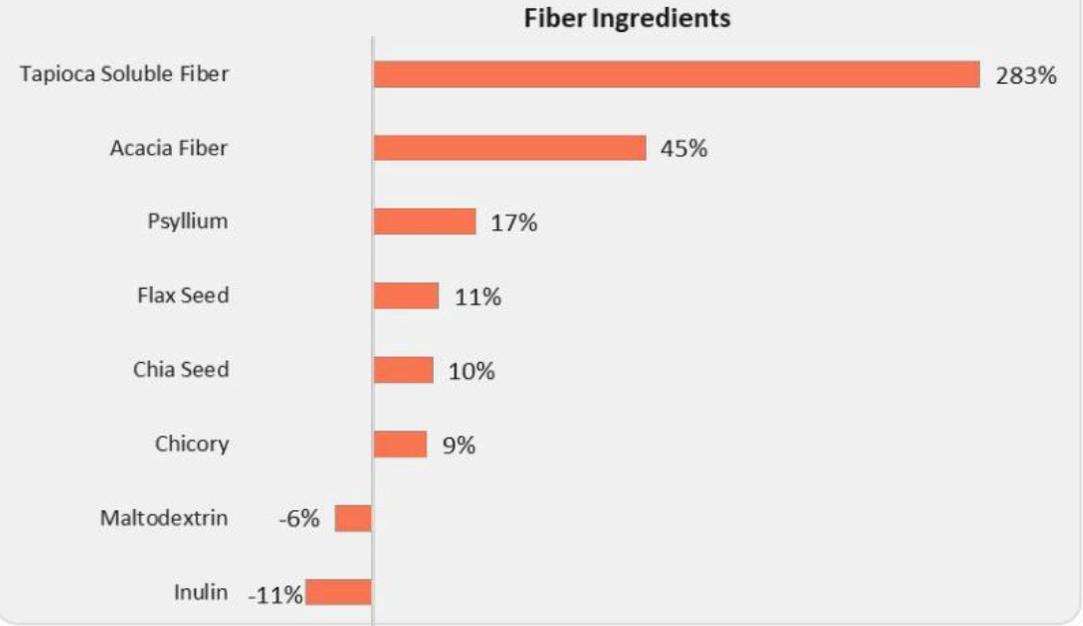
What's Happening?

Soluble Fibers: The Growth Engine Behind The Fiber Frenzy

Trending Sales Over Timer
(\$ % Change)

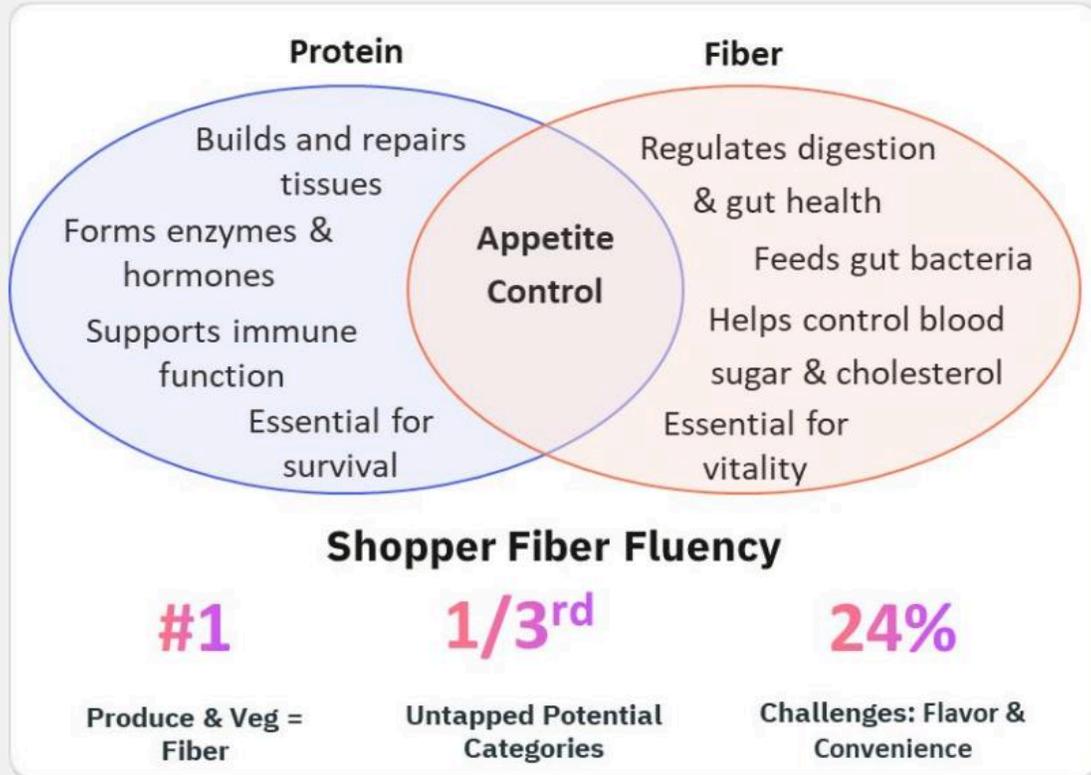


Trending Sales Over Timer
(\$ % Change)



What's Next?

Is Fiber The New Protein...Not Exactly



High Fiber - Top Category Gainers (\$ % Change*)

	SS Tea & Coffee RTD	+145%
	SS Entrees & Mixes	62%
	Yogurt & PB Yogurt	27%
	Hot Cereals	24%

*Over \$10M+ Category Sales L52 Wks

Sources: <https://ific.org/research/perceptions-fiber-whole-grains/>

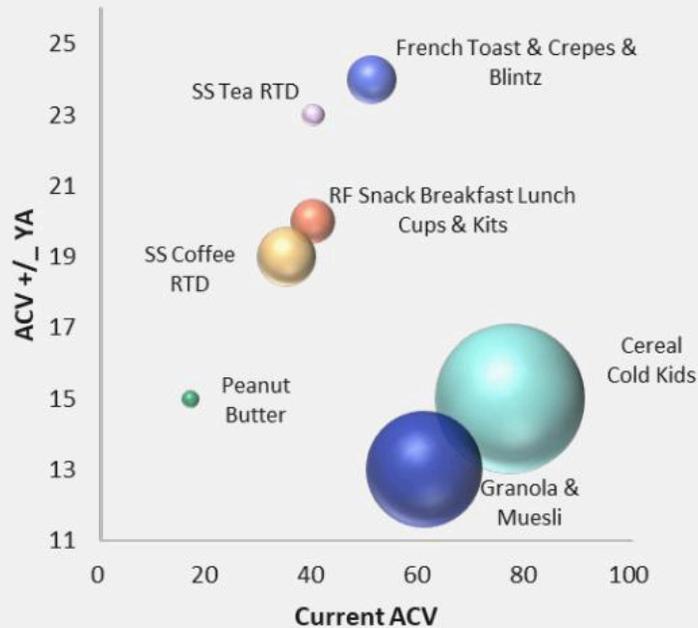
SPINS Natural Channel+ MULO (powered by Circana), Grocery, Refrigerated, Frozen Departments 52 Weeks Ending 1.25.2026

High Fiber: 6+grams/Serving

Fiber's On Fire!

Capturing Opportunities Across Occasions, Formats & Attributes

High Fiber: Largest Distribution Gains (Bubble Size = \$ Sales L52 Weeks)



Fiber "Plus" ("High Fiber" + Attribute" vs. "High Fiber" \$ % Growth Index)



Evolving To Current Need



The Modern Era of Fiber

The modern era of fiber is not a trend — it is a scientific reset. The focus will be on **restoring the metabolic signaling** that industrial food processing has stripped from our diets, using precision tools that weren't available a decade ago.



Formulation-Forward Design

Formulations that embrace the physical properties of fiber.



Novel Processing Techniques

Emerging technologies to improve formulability.



Precision Fiber Blends

Combining complementary fiber structures to achieve synergistic outcomes unattainable with single-source fibers.



Tolerance Without Trade-offs

Achieving meaningful prebiotic doses at tolerability profiles that consumers can comfortably sustain.



Clinically Backed Benefit Claims

Using precisely characterized fiber structures to generate the clinical evidence needed to substantiate health claims.



Microbiome Personalization

Matching fiber structure to individual microbiome composition — where nutritional science meets precision.

Thank You

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