

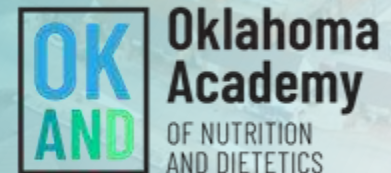
What You Need to Know

An Emerging Paradigm for Global
Health Through Agriculture and Nutrition

PRESENTED BY

P. Stephen Baenziger, PhD

Rod Wallace, PhD



Who We Are...



We are a broad-based grassroots 501(c)3 nonprofit seeking to save lives and reduce healthcare costs at global scale, by increasing nutrition in everyday foods

Our interests: science and sustainable public health advocacy.

What You Need to Know

An Emerging Paradigm

- The Challenge
- Nutrition to Support Better Health
- The Impact
- We Need You

Chronic Disease Kills Millions and Costs Billions

Nutrition can Make a Difference

Diabetes kills every 5 seconds.

Cardiovascular disease, every 2 seconds.

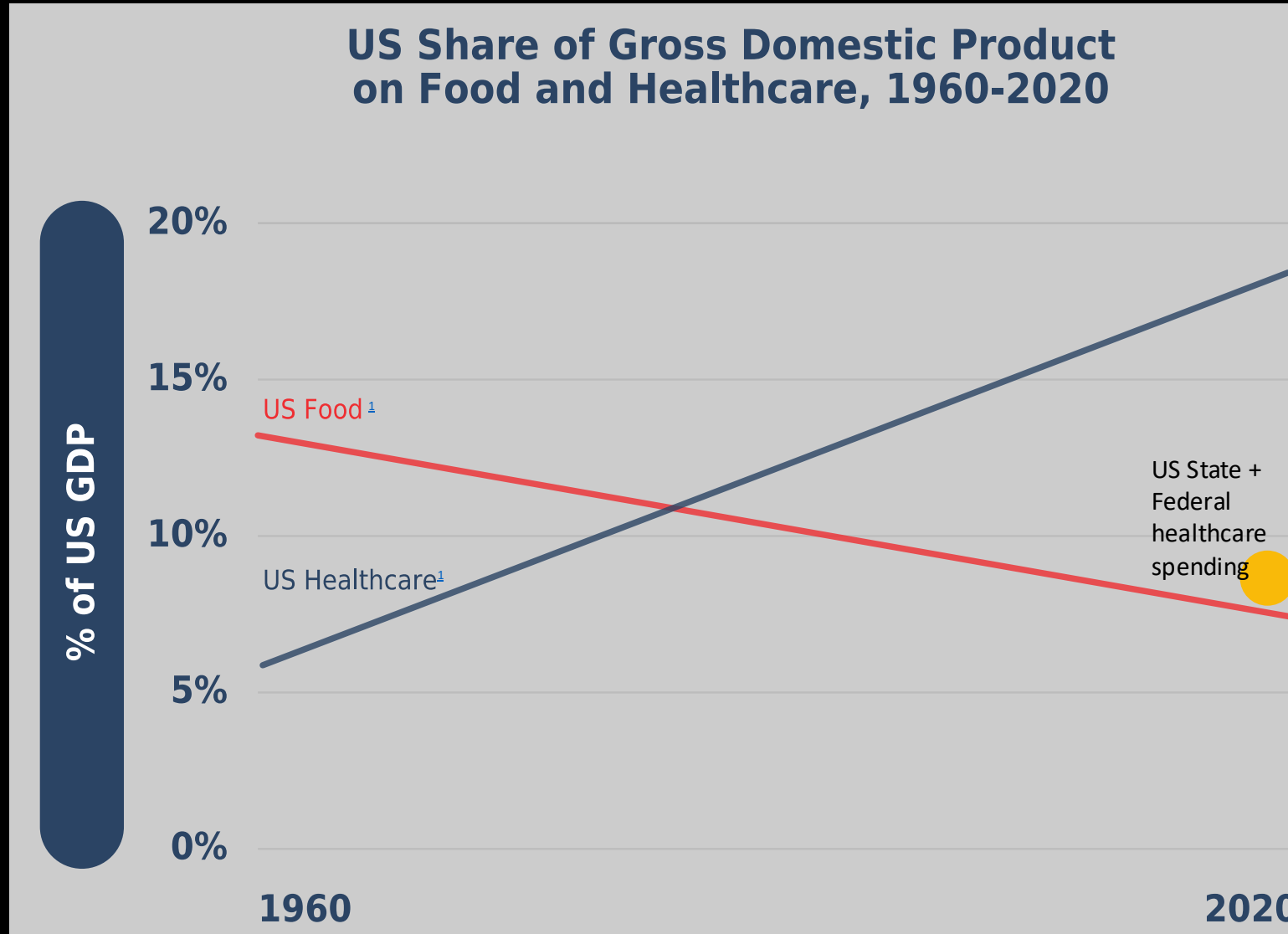


Nutrition Can Help



Now Is the Time

Shifting National Trajectory of Chronic Disease



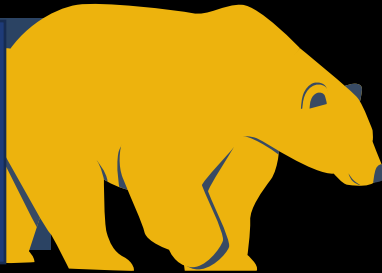
[“We will make our tax dollars support healthy foods.”](#)
[Robert F Kennedy, Jr.](#)

“Instead of focusing on who covers our exorbitant health care costs, we need to reduce these costs by directing our attention to prevention and keeping people healthy.” [Lisa Murkowski \(R\) Alaska](#)

Wheat Strategic Position

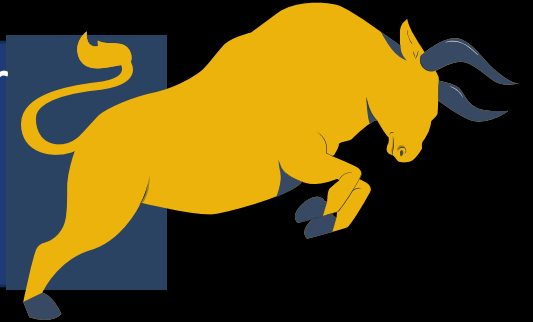
Look to Public Health

Wheat Price
\$5.50 (\$/ BU)



- Greatest [US farm profit drop](#) since 2006, with wheat less attractive
- Ongoing international pressure, notably from [Brazil](#)
- Some current administration policies are challenging for farms

Increase in Wheat Fiber
Value*
\$77 (\$/ BU of Wheat)



- Farmer profit
- Healthier communities
- Government and health insurance savings

* Team analysis, under peer review

Enrolling America's Favorite Foods

Wheat and the Fight vs Chronic Disease

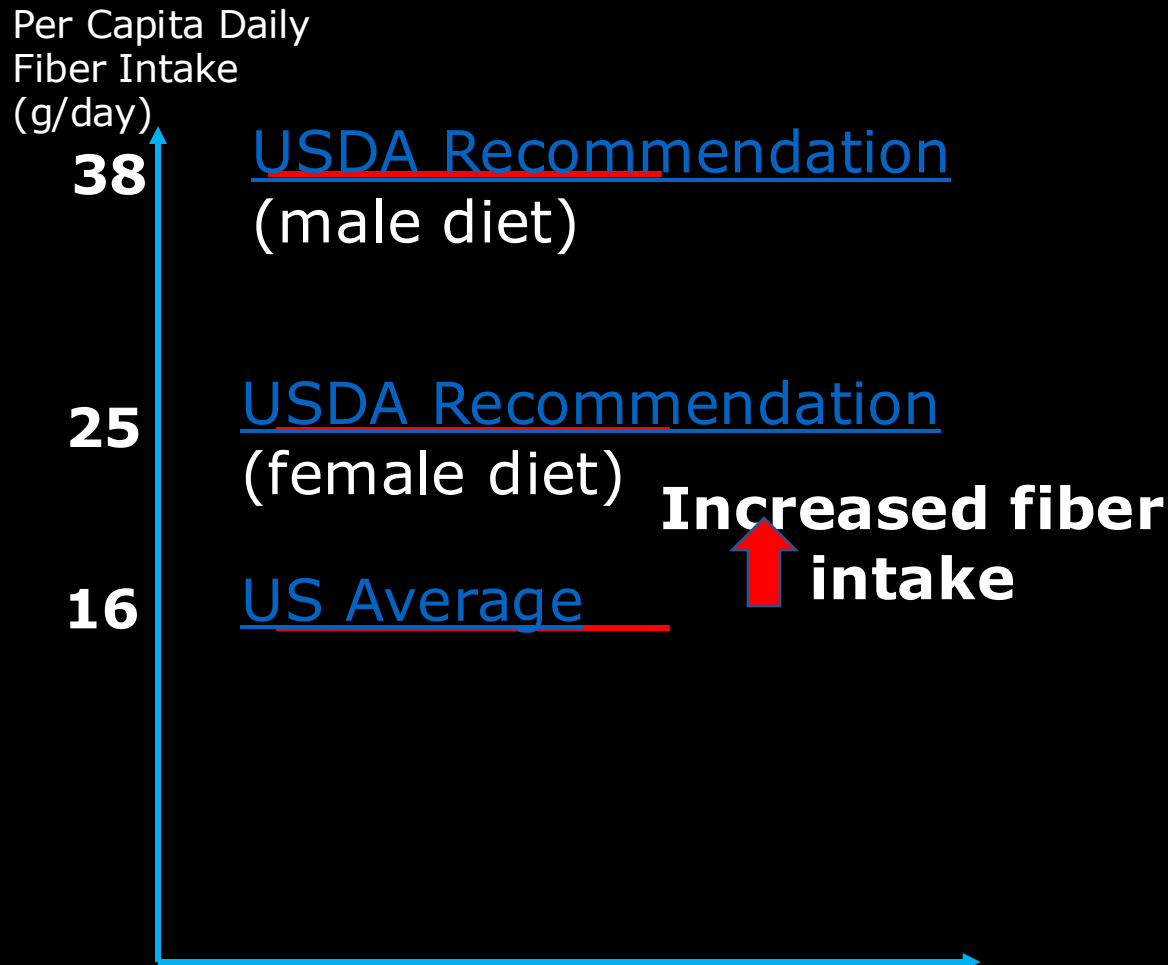
- 20% of global calories and protein
- White flour fortification cuts birth defects 60%
- Largest source of fiber in American diets (33%) ^{1,2}
- Non-GMO US crop



Dietary Fiber

Under-consumed Nutrient of Concern

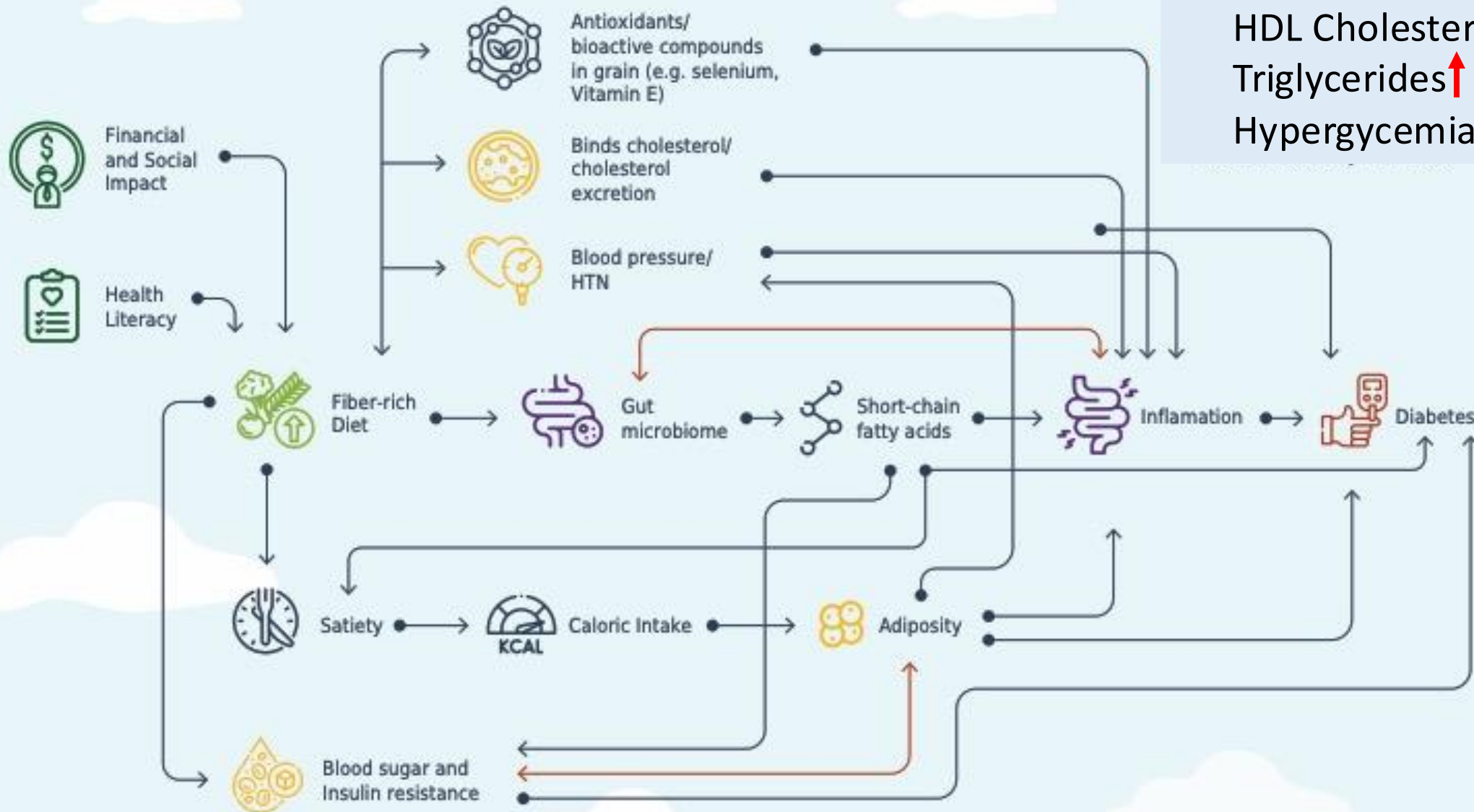
A Step in the Right Direction



Authoritative Scientific Bodies (including USDA)

- Fill gap in dietary fiber intake linked with improving health outcomes.
- Support food-based approach with fiber component in complex system
- Cereal fiber is prominent in National Academy of Sciences discussion of CVD
- Dietary fiber is one of four under-consumed nutrients of concern for entire population (calcium, potassium, vitamin D, dietary fiber)

How Dietary Fiber Reduces Diabetes Risks



Metabolic syndrome increases risk T2DM: (3 of 5 for diagnosis)

Waist circumference ↑

Blood pressure ↑

HDL Cholesterol ↓

Triglycerides ↑

Hyperglycemia

ALL addressed by fiber

Immense Cost of Chronic Disease Impacted by Dietary Fiber

US Healthcare Cost of
Cardiovascular Disease
(CVD) + Diabetes

National
\$700 Billion
Each year

50 times larger than annual
US Wheat Crop (\$10-20B)

Family of 5
Over \$10,000
Each year

2% reduction
= \$200/ year

+ Others

Evidence Suggests Dietary Fiber **CUTS**

What You Need to Know

An Emerging Paradigm

- The Challenge
- Nutrition to Support Better Health
- The Impact
- We Need You

A Paradigm Shift Learned from History

Modest Improvement in Foods Eaten By Everyone Several Times a Day

Most Impactful Health Strategies

- Fortified white flour [birth defects](#) ↓
- Vitamin D dairy [rickets](#) ↓
- Others

Food safety*

Other Examples?

Our Attractive Choices

Top 3 Foods' Diet Share

Global	51%	US	33%
7 Foods	70%	13 Foods	84%

Financial incentives building on existing policy and strategies

Without relying on consumers to change behavior

* [20th Century Greatest Public Health Strategies](#)

Coalition for Grain Fiber

Coordinated, Low-Cost, Transformation

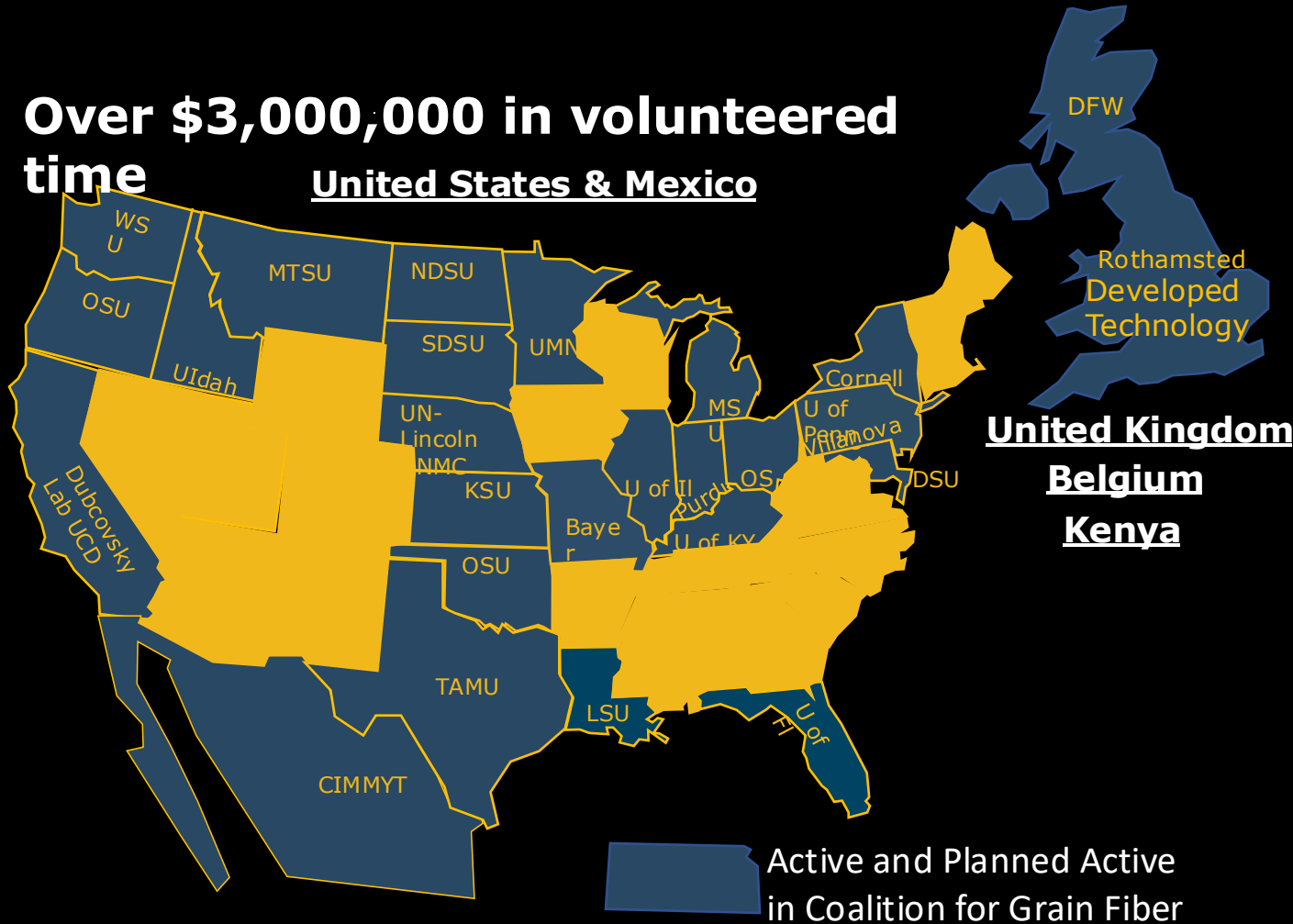


World-Class Science Team

Dedicated to Transforming Food

Over \$3,000,000 in volunteered time

United States & Mexico



Over 50 Laboratory Leaders

25 States and 5 Nations

27 Full Professors

6 Distinguished Professors

1 Winner of the Wolf World Award for Agricultural Science

Research endorsed by Nobel Peace Laureate
Experience from across the wheat supply chain, food industry, and beyond.

Arabinoxylan Fiber Increase Suited for Broad Application

- Clean label
- In intact food
- No yield loss
- Royalty free, to all
- Minimal baking adjustment
and supply chain disruption



Target fiber in
endosperm cell walls

Doable For Farms and Bakeries

DEVELOPMENT



- **Fiber content** naturally varies **in current commercial wheat varieties (a non-GMO crop)**
- We can rapidly identify existing varieties that— by chance— have higher-fiber
- 19 years of research on commercial wheat illustrates potential to follow with wave(s) of increased fiber

PLANT BREEDING IMPACT



- No yield loss
- Any region, wheat class
- Royalty free

END USE QUALITY IMPACT

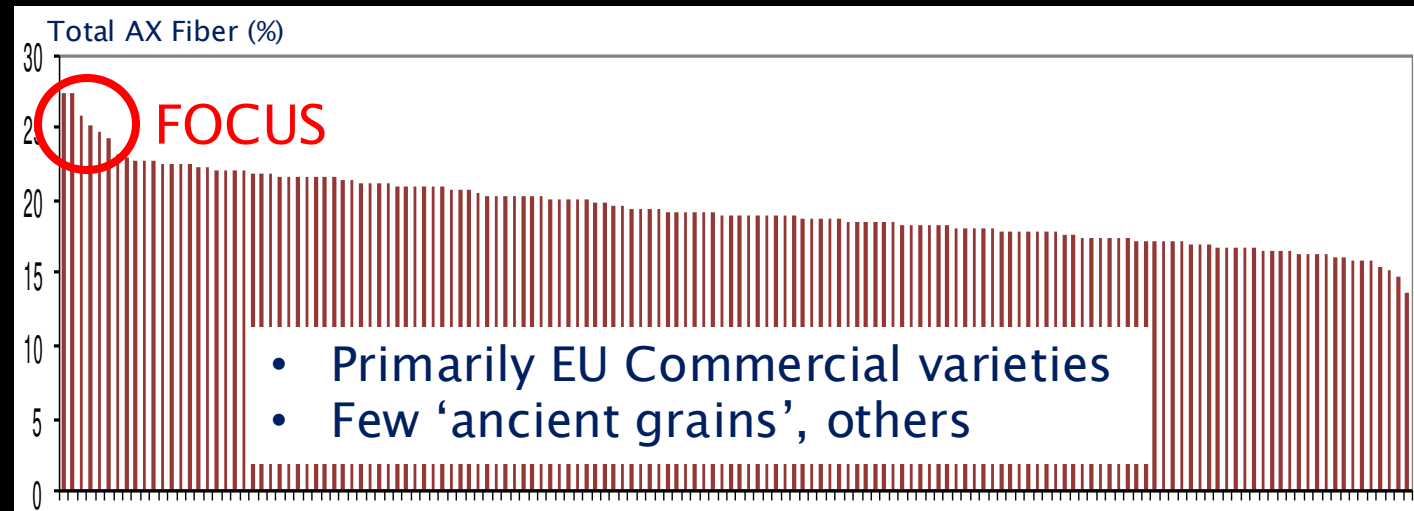


- HARD WHEAT: Commercial baking within commercial variation
- SOFT WHEAT: Best for doughy applications

First Wave: Increase Achievable 'Tomorrow' Comparatively High-Fiber, Quality Wheat Exists NOW



AX Fiber Levels of 150 Commercial Varieties



[Shewry, et al, 2015.](#)

Variation in US wheat is consistent with European experience

Second Wave: 5-7 years

Improving Wheat Lines with Traditional Plant Breeding

Lincoln, NE High Fiber Wheat Test Plot

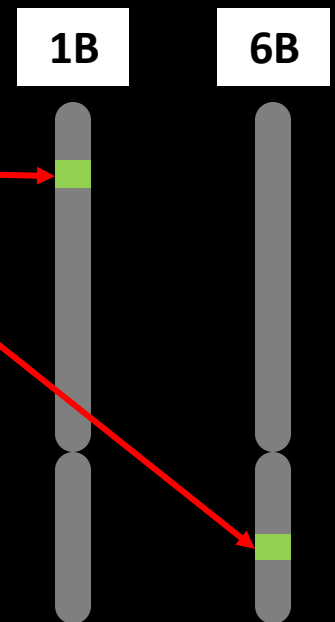


Science: [High Fiber Parent Wheats](#)

→ High Fiber Next Generation (non-GMO)

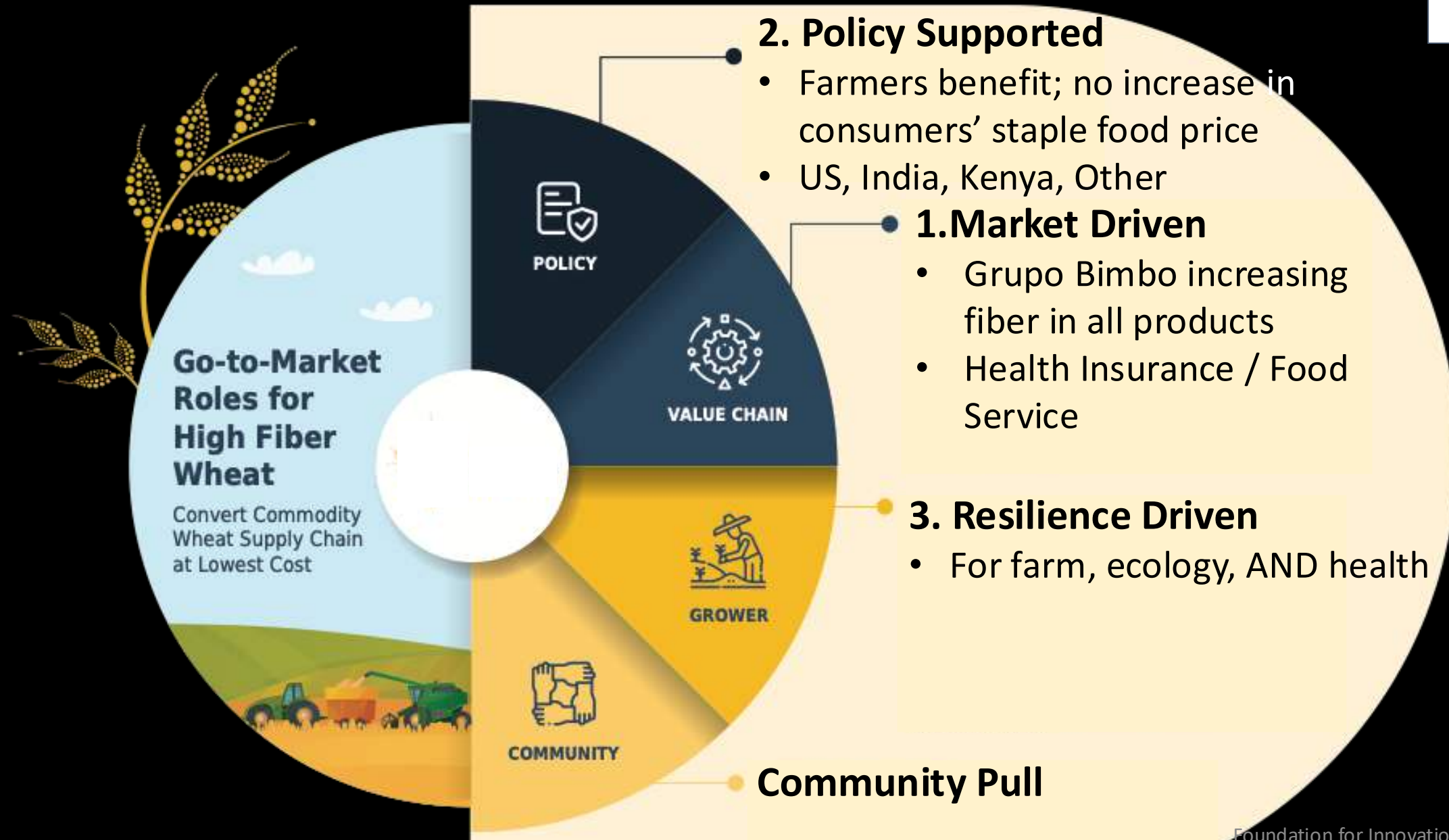
- Positive alleles w/ available markers
- Genetics explain 70% of variation
- Gene (QTL) combinations multiply impact

Wheat Chromosomes



Bringing High-Fiber Wheat to-Market

Three Approaches Attractive Today



Integrated Diet Perspective

Dietary Fiber

- Food Options (Dietary Guideline Focus)
 - Dietary fiber is under-consumed nutrient of concern globally
 - Eat more fruits, vegetables, and legumes
 - At least half of all grains consumed are whole grains; other half fortified
 - E.g., 'Chia yogurt' (chia seeds + milk)
- Community Culture and Economic Environment

Our Focus

- Food Production and Processing
 - Increased-fiber wheat options exist for most most white flour and whole grain foods
 - Several fruit, vegetable varieties vary in fiber; peels tend to be high in fiber
 - Banana fiber:
Green 15 g; ripe 4-5 g; over-ripe 2 g
 - Twice-cooked, refrigerated carbohydrates (rice, wheat, corn, potatoes) materially increase resistant starch levels, which acts as a dietary fiber.
- Health Impact

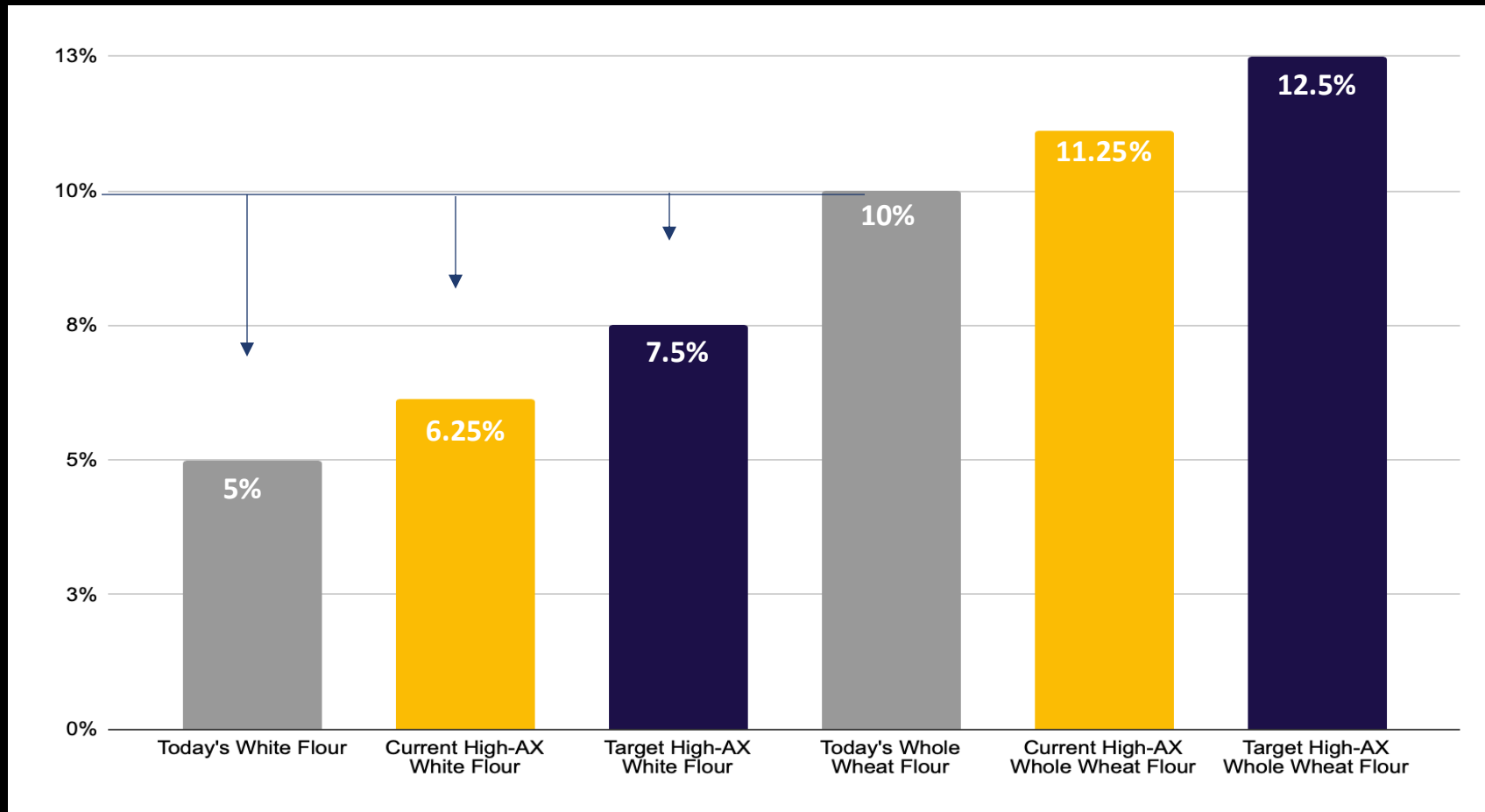
What You Need to Know

An Emerging Paradigm

- The Challenge
- Nutrition to Support Better Health
- The Impact
- We Need You

Nature's Opportunity To Increase Wheat Fiber

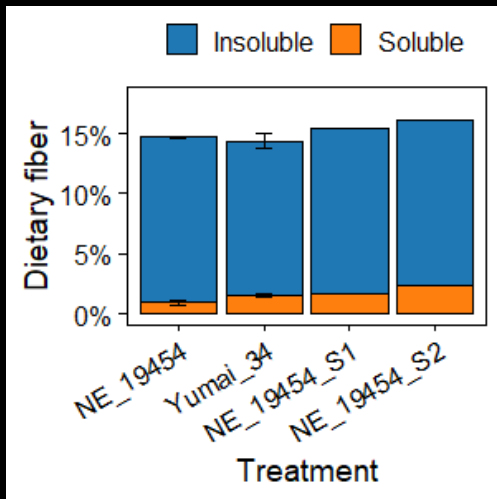
Wheat Flour Fiber, High Arabinoxylan Project (Indicative)



Arabinoxylan Fiber Impact

Testing Small Dose Increases in Wheat Arabinoxylan

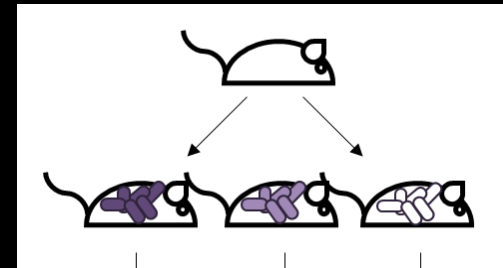
Positive In Vitro Gut Microbiome Test



Results consistent with hypothesis:

- Low-dose fiber increase, Propionate ↑
- Mostly impacted ASVs (Amplicon sequence variants) corresponding to Bacteroidales order

Human Microbiota-Associated Mouse Study



Feed control low-fat (LF) diet or Western diet containing 30% wheat with varying fiber levels:

↓ 12 Weeks ↓

Human Studies to Follow

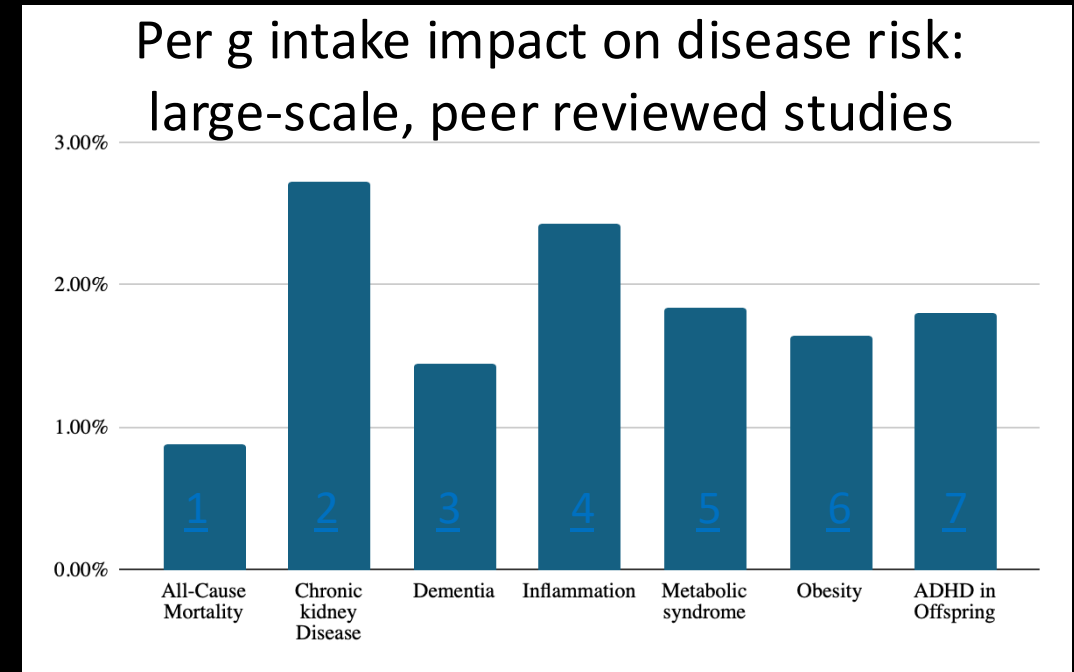


Developing Methods to Enhance Rigor for Evaluation of Low-Dose Nutrient Increases

Population Impact

Fiber Impact Across Chronic Diseases

- Any fiber increase in intact foods responds to what the US Department of Agriculture calls a “substantial public health concern for the general US population.”
- Highly esteemed scientific bodies tend to especially recognize links between fiber and 3 conditions, with projected impacts:
 - 1-3%** less cardiovascular disease (1)
 - 3-4.5%** less Type 2 diabetes (1, 2)
 - 1.75%** less colorectal cancer
- For Dietary Recommended Intake update, systematic review of fiber on laxation in people with normal bowel function: multiple benefits, from 5 to >35 grams/ day



Correlation also ID'd in periodontal disease, tinnitus, anxiety, depression, pulmonary disease, psychological distress

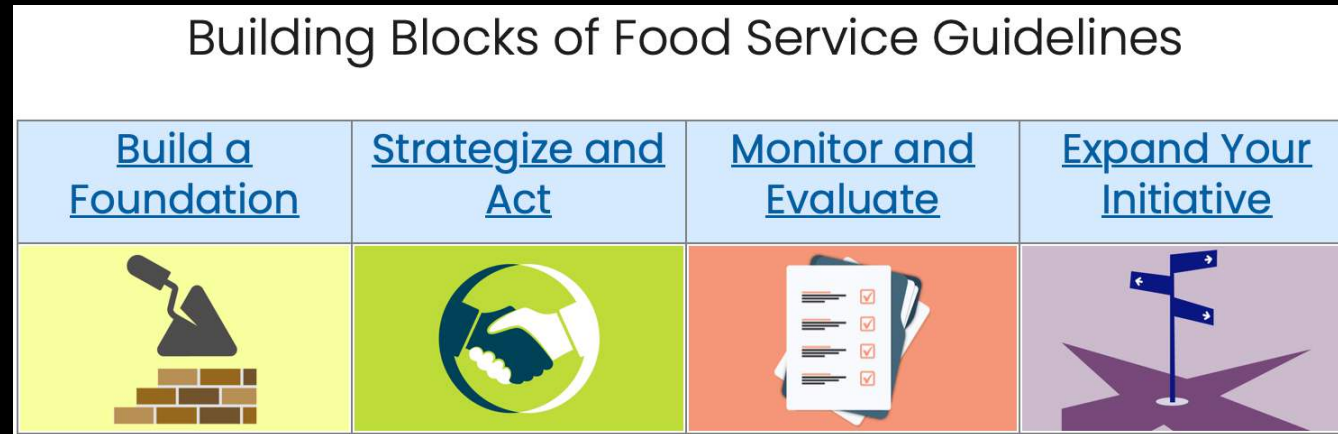
* Per 2.5 gram intake increase

Food Service Implementation

Supporting Healthier Diets, without Relying on Behavior Change

We plan to explore standards that align diets more closely to guidelines, by improving foods people already choose to eat:

- Focus is on commodity production, processing, and formulation choices.
- We look forward to collaboration, including with health insurers.



This approach builds on Center for Disease Control (CDC) standards for healthier food service operations focused on food options, food safety, less waste, ‘buy local’


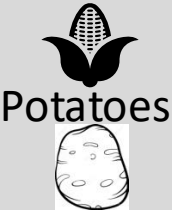










Current CDC approach highlights, for example, offer at least 3 fruit options daily; offer half of total grains as whole grains. We suggest highlighting more nutrient rich food production and processing options.

Beyond Wheat: Foods with Global Impact

Homogeneous Diet and High Health Costs

US

13 Most-Consumed Commodities

<u>(% by mass)</u>			% of total
Wheat	Maize	Rice	31%
			
Chicken	Beef	Pork	27%
			
Milk Solids			16%
			
Sugar	Corn Sweetener		9%
			
Tomatoes	Lettuce	Oils	
			


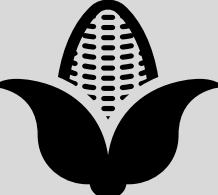





83% of total

9 Highest- Cost Chronic Diseases

	Cost (\$BB)	% US GDP
Mental Illness	418	1.8%
Cardiovascular Disease	363	1.6%
Diabetes	327	1.4%
Alzheimer	305	1.3%
Arthritis	304	1.3%
Cancer	240	1.0%
Obesity	173	0.7%
Pulmonary	50	0.2%
Dental	45	0.2%
Top 9	2,225	10%

World

7 Most-Consumed Commodities

(% total by energy)			% of total
Wheat	Maize	Rice	51%
			
Chicken	Beef	Pork	19%
			
Cow Milk			
			

70% of total

Nutrition-for-Health and You

Request for Insights and Help from OKAND

- **How do you suggest we modify or materially shift the approach and message?**
- **From your perspective, what are the biggest risks and hurdles to overcome?**
- **What opportunities may there be to leverage this paradigm with your clients?**
- **Are you interested in collaborating on an outreach, education, food supply effort?**
 - Our team brings experience with Native American, Black American, Southeast Asian communities, and corporations
- **Can you help us share our message with your people, in the way they need to hear it?**

References:

International Diabetes Federation. Diabetes Atlas. 11th Edition. 2025.

<https://diabetesatlas.org/#:~:text=Over%203%20in%204%20adults,2021%20%2D%201%20every%205%20seconds> (Accessed Mar 20, 2025).

Di Cesare, M, Perel, P, Taylor, S., et al (2024). The Heart of the World. *Glob Heart*, 19(1).

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10809869/#:~:text=Cardiovascular%20diseases%20have%20remained%20the,recorded%20in%202021%20%5B1%5D>.

US Center for Medicare & Medicaid Services. NHE Fact Sheet. <https://www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data/nhe-fact-sheet>. Accessed Oct 10, 2024)

US Department of Agriculture. Economic Research Service. Food Prices and Spending.

<https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-prices-and-spending/?topicId=2b168260-a717-4708-a264-cb354e815c67>. (Accessed Oct 10, 2024)

References:

Daily, R. (2025) RFK Jr. Calls out food industry as ‘primary culprit’ in worsening health epidemic.
<https://www.foodnavigator-usa.com/Article/2025/01/29/rfk-jr-faces-senate-grilling-during-confirmation-hearing/U> (accessed Jan 30, 2025)

Terry, E. (2025) RFK Jr vote will come before the weekend, and several key Republicans are shifting their views. *Deseret News*. <https://www.yahoo.com/news/rfk-jr-vote-come-weekend-221629969.html>.
(accessed Jan 31, 2025)

US Department of Agriculture. Economic Research Service. Farm Sector Income Forecast.
<https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-sector-income-forecast>. (accessed Feb 10, 2025)

Ministerio da Agricultura e Pecuaria. Projecoos do Agronegocio 2023-2024 a 2024-2034.
<https://www.gov.br/agricultura/pt-br/assuntos/politica-agricola/todas-publicacoes-de-politica-agricola/projecoos-do-agronegocio/projecoos-do-agronegocio-2022-2023-a-2032-2033.pdf/view>
(accessed Feb 10, 2025)

References:

CastilloLancellotti, C. Tur. J. Uauy. R. (2013) Impact of folic acid fortification of flour on neural tube defects: a systematic review. Public Health Nutr. (16) <https://pubmed.ncbi.nlm.nih.gov/22850218/>

US Centers for Disease Control and Prevention. Ten great public health achievements -- United States, 1900-1999. 1999. <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm> (accessed Oct 10, 2024).

US Center for Disease Control. Food Service Guidelines. <https://www.cdc.gov/nutrition/php/food-service-guidelines/index.html>. Accessed Mar 20, 2025.

Food and Agriculture Organization of the United Nations. Statistical Yearbook. World Food and Agriculture. 2020. <https://openknowledge.fao.org/server/api/core/bitstreams/fe3b44ad-553a-4d2f-b8d9-d0ef1dc509ed/content>. Accessed Oct 10, 2024

US Department of Agriculture, Food Availability and Consumption. <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-availability-and-consumption>. Accessed Oct 10, 2024.

References:

U.S. Department of Agriculture. Economic Research Service. Weat. Wheat Sector at a Glance.
<https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=76577>. Accessed Oct 10, 2024.

Shewry PR, Serna-Saldivar SO. Dietary fiber in cereal grains. In: Shewry PR, Koksel H, Taylor JRN, ed. ICC handbook of 21st century cereal science and technology. Cambridge: Academic Press; 2023. p. 55–62.

U.S. Department of Agriculture. Dietary Guidelines for Americans. 2020-2025.
https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf (Accessed Oct 10, 2024)

Quagliani D, Felt-Gunderson P. Closing America's fiber intake gap: communication strategies from a food and fiber summit. *Am J Lifestyle Med* 2017; **11**: 80–5.
<https://pmc.ncbi.nlm.nih.gov/articles/PMC6124841/>

References:

National Academy of Sciences, Engineering, Medicine (2006). Dietary Reference Intakes. The Essential Guide to Nutrient Requirements. <https://nap.nationalacademies.org/catalog/11537/dietary-reference-intakes-the-essential-guide-to-nutrient-requirements>.

Bailey RL, Ard JD, Davis, TA et al. A proposed framework for identifying nutrients and food components of public health relevance in the dietary guidelines. *J Nutr* 2021; 151: 1197–204. <https://pubmed.ncbi.nlm.nih.gov/33693925/>

Deehan EC, Zhang Z, Riva A, et al. Elucidating the role of the gut microbiota in the physiological effects of dietary fiber. *Microbiome* 2022; **10**: 77. <https://microbiomejournal.biomedcentral.com/articles/10.1186/s40168-022-01248-5>

U.S. Center for Disease Control. Chronic Disease. Fast Facts: Health and Economic Costs of Chronic Conditions. https://www.cdc.gov/chronic-disease/data-research/facts-stats/?CDC_AAref_Val=https://www.cdc.gov/chronicdisease/about/costs/index.htm (accessed Oct 10, 2024)

References:

Polzonetti, V. Pucciarelli, S. Vincenzetti, S., Pollidori, P. (2020) Dietary Intake of Vitamin D from Dairy Products reduces the Risk of Osteoporosis. *Nutrients* (12).

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7353177/>

Shewry PR, Prins A, Kosik O, Lovegrove A. Challenges to increasing dietary fiber in white flour and bread. *J Agric Food Chem* 2024; **72**: 13513–22. <https://pubs.acs.org/doi/10.1021/acs.jafc.4c02056>

Kiszonas, A. Morris, C. (2013) A Comprehensive Survey of Soft Wheat Grain Quality in US Germplasm. *Cereal Chemistry* (90).

https://www.researchgate.net/publication/266968738_A_Comprehensive_Survey_of_Soft_Wheat_Grain_Quality_in_US_Germplasm

Shewry, P. Hey, S. (2015) The contribution of wheat to human diet and health. *Food and Energy Security*. <https://doi.org/10.1002/fes3.64>

References:

McKeown, N. (2022) Fibre intake for optimal health: how can healthcare professionals support people to reach dietary recommendations? BMJ. 378. <https://doi.org/10.1136/bmj-2020-054370>

Phillips, K. McGinty, R. et al (2021) Dietary Fiber, starch, , and sugars in bananas at different stages of ripeness in the retail market. PLoS One (8). <https://pubmed.ncbi.nlm.nih.gov/34237070/>

Bhardwaj, K. Najda, A. et al (2022) Fruit and Vegetable Peel-Enriched Functional Foods: Potential Avenues and Health Perspectives. Evid Based Complement Alternat Med. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9273365/>

Topuz, A. Topakci, M. et al (2005) Physical and nutritional properties of four orange varieties. Journal of Food Engineering. (66). <https://www.sciencedirect.com/science/article/abs/pii/S026087740400189X>

Feliciano, R. Ramos, A. (2010) Characterization of traditional and exotic apple varieties from Portugal. Part 1- Nutritional, phytochemical, and sensory analysis. (2). <https://www.sciencedirect.com/science/article/abs/pii/S1756464609000826?via%3Dihub>

References:

U.S. Department of Agriculture. Have a Question? AskUSDA. How Much Dietary fiber should I eat? <https://ask.usda.gov/s/article/How-much-dietary-fiber-should-I-eat#:~:text=Dietary%20fiber%20intake%20is%20recommended,intake%20should%20be%2028%20grams> (accessed Oct 10, 2024)

Canene-Adams, K. Laurie, L. et al (2021) Estimating the potential public health impact of fibre enrichment: a UK modelling study. British Journal of Nutrition (128). <https://pubmed.ncbi.nlm.nih.gov/34991735/>

InterAct Consortium. (2015) Dietary fibre and incidence of type 2 diabetes in eight European countries: the EPIC-InterAct Study and a meta-analysis of prospective studies. Dabetologia (58). <https://pubmed.ncbi.nlm.nih.gov/26021487/>

American Institute for Cancer Research. Facts on Fiber and Whole Grains. https://www.aicr.org/resources/blog/ask-the-dietitian-get-your-facts-right-on-fiber-and-whole-grains/?utm_source=chatgpt.com (Accessed Oct 10, 2024)

References:

The Association of Dietary Fiber Intake in Three Meals with All-Cause and Disease-Specific Mortality among Adults: The U.S. National Health and Nutrition Examination Survey, 2003–2014.

[https://www.thelancet.com/journals/langas/article/PIIS2468-1253\(19\)30257-2/abstract](https://www.thelancet.com/journals/langas/article/PIIS2468-1253(19)30257-2/abstract)

Dong, W. Yang, Z. (2022) Association of Dietary Fiber Intake With Myocardial Infarction and Stroke Events in US Adults: A Cross-Sectional Study of NHANES 2011–2018. Front Nutr. (9).

<https://pubmed.ncbi.nlm.nih.gov/35799583/>

Zhang, C. Yan, W., et al (2024) Association between dietary fiber intake and chronic kidney disease in adults with and without hypertension in the United States: a cross-sectional study of NHANES 2009–2020. Ren Fail. (46). <https://pubmed.ncbi.nlm.nih.gov/39412048/>

Grooms, K. Ommerborn, M. et al (2014) Dietary Fiber Intake and Cardiometabolic Risks among US adults, NHANES 199-2010. Am J Med. (126) <https://pmc.ncbi.nlm.nih.gov/articles/PMC3865784/>

Yamagishi, K. (2022) Dietary fiber intake and risk of incident disabling dementia: the Circulatory Risk in Communities Study. Nutritional Neuroscience (26).

https://www.tandfonline.com/doi/full/10.1080/1028415X.2022.2027592?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org#d1e491

References:

Solberg, B. Kvalvik, L. et al (2024) Maternal Fiber Intake During Pregnancy and Development of Attention-Deficity/Hyperactivity Disorder Symptoms Across Childhood: The Norwegian Mother, Father, and Child Cohort Study. Biological Psychiatry.

[https://www.biologicalpsychiatryjournal.com/article/S0006-3223\(23\)01794-8/fulltext](https://www.biologicalpsychiatryjournal.com/article/S0006-3223(23)01794-8/fulltext)

Nielsen, S. Trak-Fellermeier, M. et al (2016) Dietary Fiber Intake is Inversely Associated with Periodontal Disease amont US Adults. The Journal of Nutrition (146).

<https://pmc.ncbi.nlm.nih.gov/articles/PMC5118764/>

Tang, D. Tran, Y. et al (2021) Dietary Fibre Intake and the 10-Year Incidence of Tinnitus in Older Adults. Nutrients (13). <https://pubmed.ncbi.nlm.nih.gov/34836381/>

Saghafian, F. Sharif, N. et al (2021) Consumption of Dietary Fiber in Relation to Psychological Disorders in Adults. Front Psychiatry (12). <https://pmc.ncbi.nlm.nih.gov/articles/PMC8264187/>

Hanson, C. Lyden, E. et al (216) The Relationship between Dietary Fiber Intake and Lung Function in the National Health and Nutrition Examination Surveys. Ann Am Thorac Soc. (13).

<https://pubmed.ncbi.nlm.nih.gov/26783997/>

References:

Solberg, B. Kvalvik, L. et al (2024) Maternal Fiber Intake During Pregnancy and Development of Attention-Deficity/Hyperactivity Disorder Symptoms Across Childhood: The Norwegian Mother, Father, and Child Cohort Study. Biological Psychiatry.

[https://www.biologicalpsychiatryjournal.com/article/S0006-3223\(23\)01794-8/fulltext](https://www.biologicalpsychiatryjournal.com/article/S0006-3223(23)01794-8/fulltext)

Nielsen, S. Trak-Fellermeier, M. et al (2016) Dietary Fiber Intake is Inversely Associated with Periodontal Disease amont US Adults. The Journal of Nutrition (146).

<https://pmc.ncbi.nlm.nih.gov/articles/PMC5118764/>

Tang, D. Tran, Y. et al (2021) Dietary Fibre Intake and the 10-Year Incidence of Tinnitus in Older Adults. Nutrients (13). <https://pubmed.ncbi.nlm.nih.gov/34836381/>

Saghafian, F. Sharif, N. et al (2021) Consumption of Dietary Fiber in Relation to Psychological Disorders in Adults. Front Psychiatry (12). <https://pmc.ncbi.nlm.nih.gov/articles/PMC8264187/>

Hanson, C. Lyden, E. et al (216) The Relationship between Dietary Fiber Intake and Lung Function in the National Health and Nutrition Examination Surveys. Ann Am Thorac Soc. (13).

<https://pubmed.ncbi.nlm.nih.gov/26783997/>

References:

Khorasaniha, R. Olof, H. et al (2023) Diversity of fibers in common foods: Key to advancing dietary research. Food Hydrocolloids (139).

<https://www.sciencedirect.com/science/article/pii/S0268005X23000413>

Bajarczuk, A. Skapska, S. et al (2022) Health benefits of resistant starch: A review of the literature. Journal of Functional Foods (93).

<https://www.sciencedirect.com/science/article/pii/S1756464622001645>

US Center for Disease Control. Food Service Guidelines. <https://www.cdc.gov/nutrition/php/food-service-guidelines/index.html>. Accessed Mar 20, 2025.

Food and Agriculture Organization of the United Nations. Statistical Yearbook. World Food and Agriculture. 2020. <https://openknowledge.fao.org/server/api/core/bitstreams/fe3b44ad-553a-4d2f-b8d9-d0ef1dc509ed/content>. Accessed Oct 10, 2024

How to Contact Us

Rod Wallace: Rod.Wallace@fihf.org

P. Stephen Baenziger: pstephen.baenziger@gmail.com

Foundation for Innovation in Healthy Food: <https://fihf.org>

Coalition for Grain Fiber: <https://fihf.org/coalition-for-grain-fiber/>

**Better food for better
lives.**



Appendix

P. Stephen Baenziger

My why:

Freedom from want

Authoritative Scientific Bodies (including USDA)

- Fill gap in dietary fiber intake linked with improving health outcomes.
- Support food-based approach with fiber component in complex system
- Cereal fiber is prominent in National Academy of Sciences discussion of CVD
- Dietary fiber is one of four under-consumed nutrients of concern for entire population (calcium, potassium, vitamin D, dietary fiber)

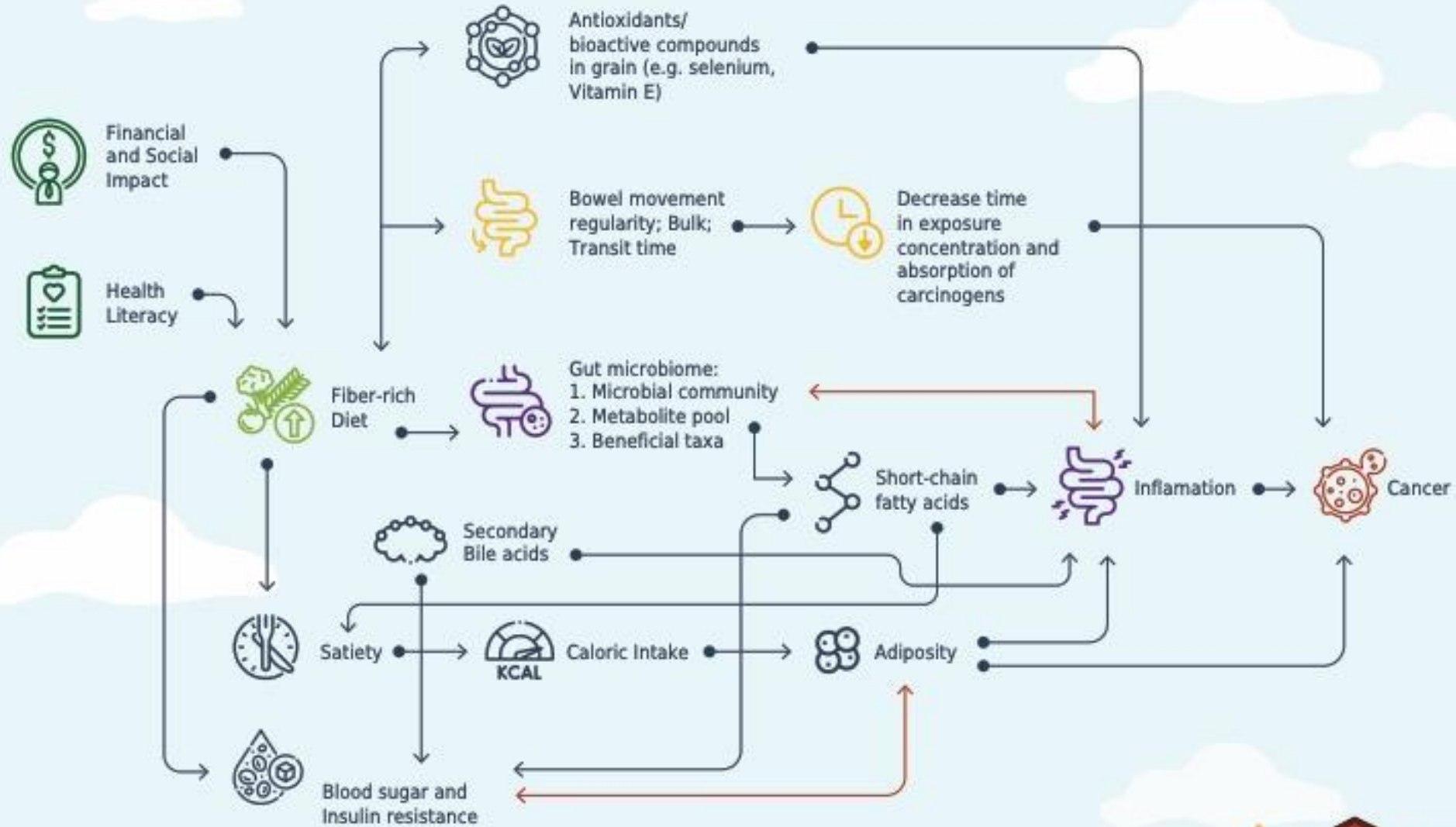


COALITION FOR
GRAIN FIBER

How Dietary Fiber Reduces Cancer Risks



FOUNDATION FOR INNOVATION
IN HEALTHY FOOD



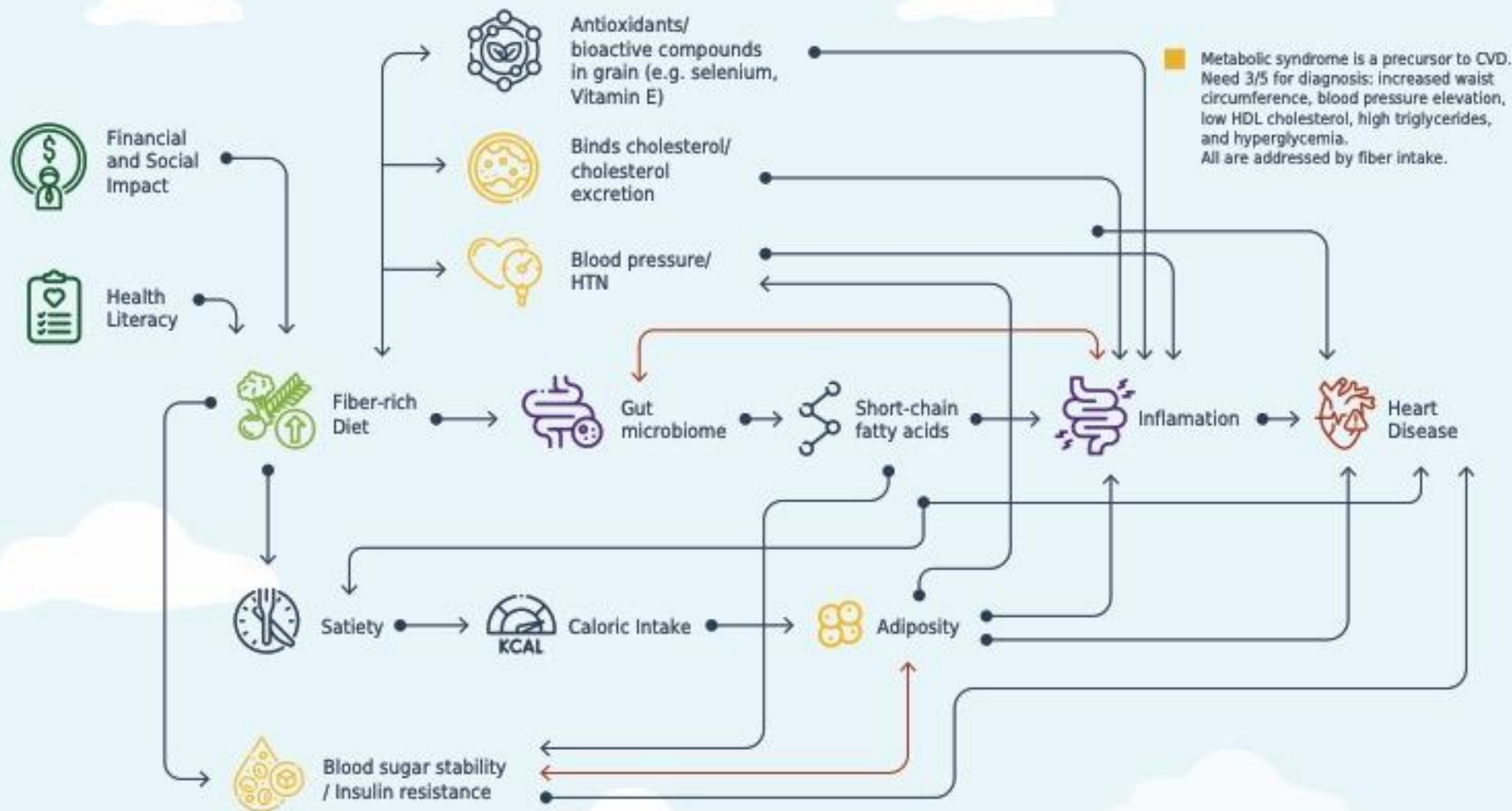


COALITION FOR
GRAIN FIBER

How Dietary Fiber Reduces Heart Disease Risks



FOUNDATION FOR INNOVATION
IN HEALTHY FOOD



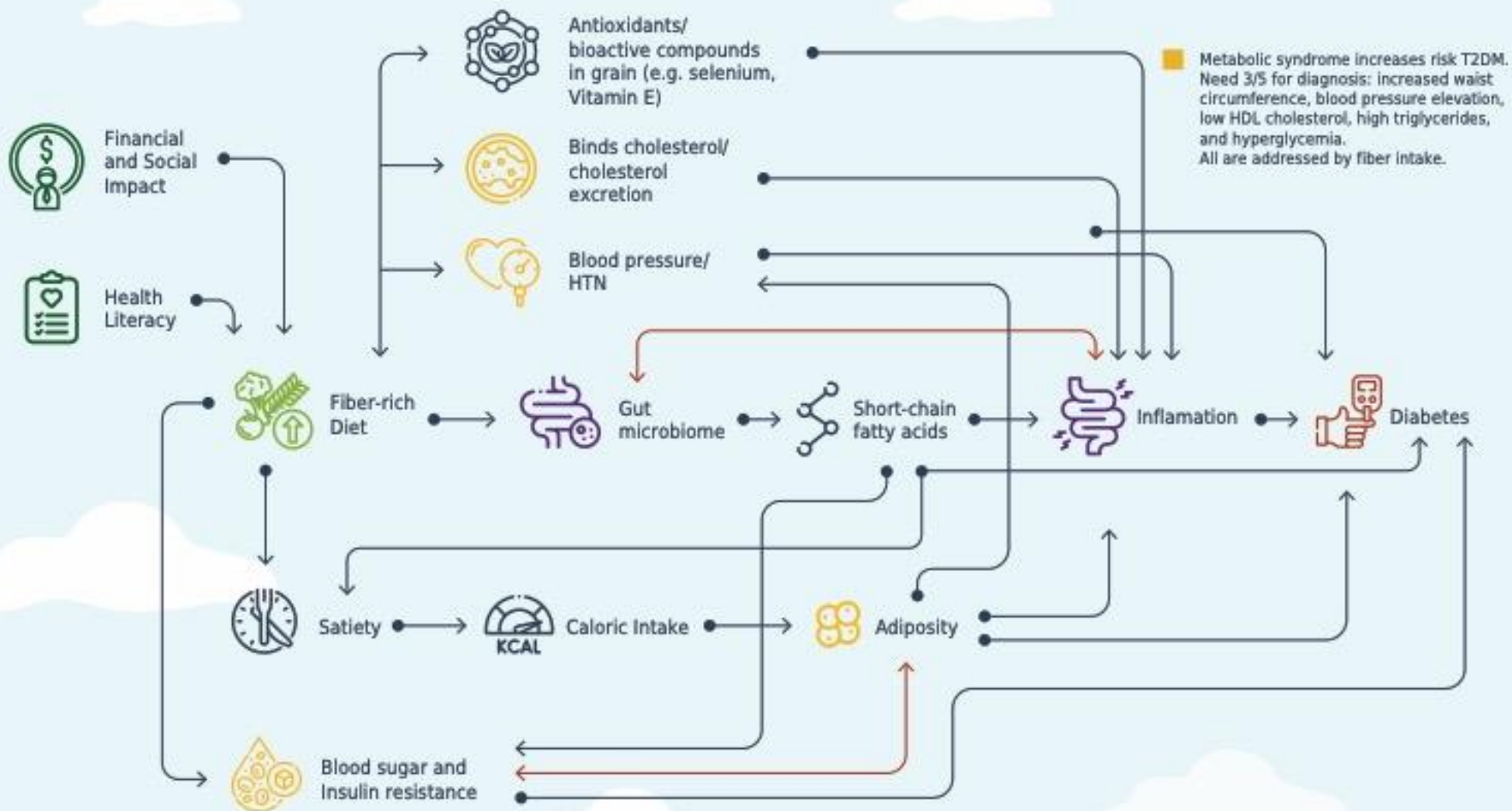


COALITION FOR
GRAIN FIBER

How Dietary Fiber Reduces Diabetes Risks



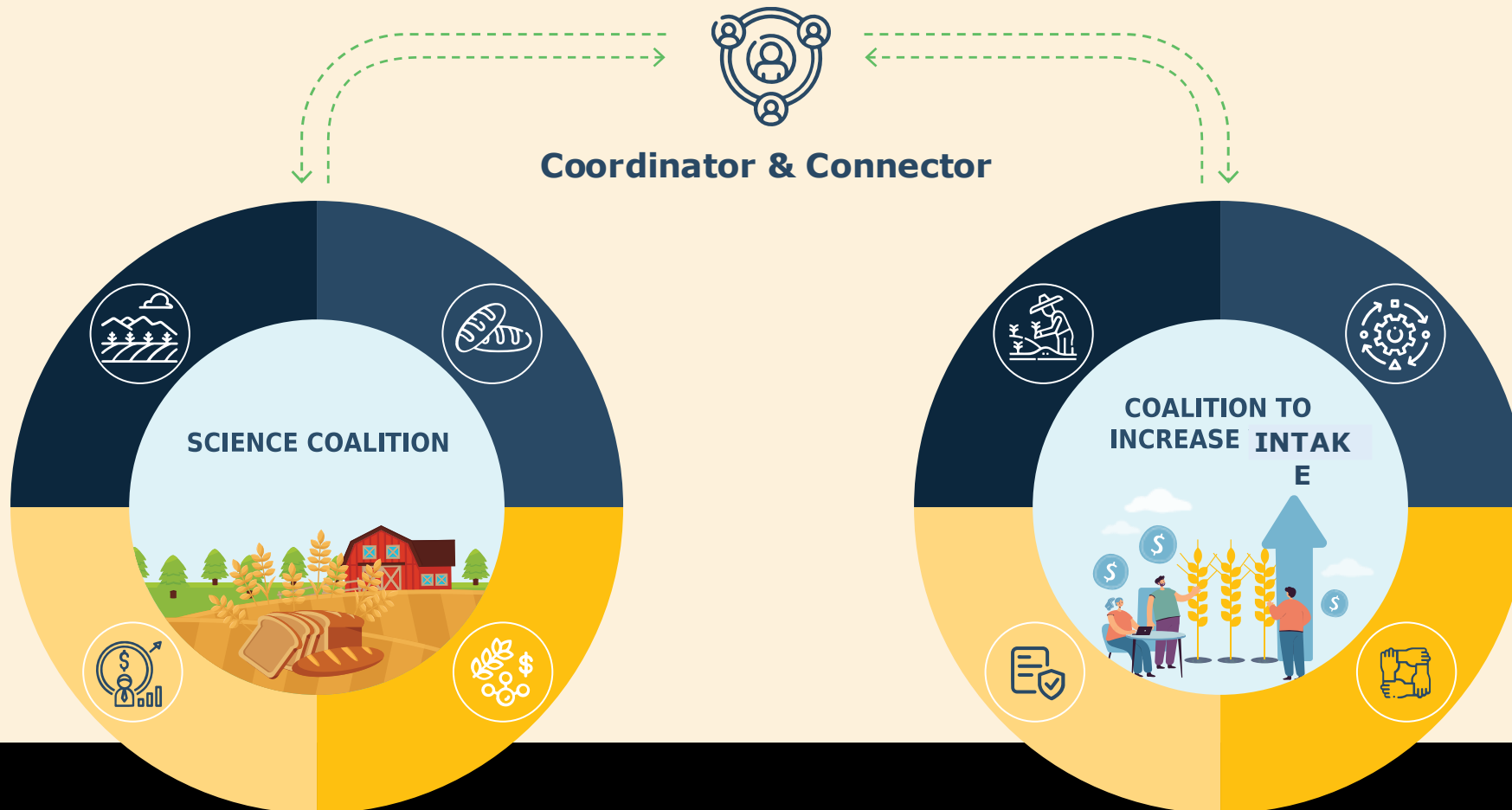
FOUNDATION FOR INNOVATION
IN HEALTHY FOOD



Coalition for Grain Fiber

Coordinated, Low-Cost, Transformation

"Little Hinge"



Building Blocks of Food Service Guidelines

<u>Build a Foundation</u>	<u>Strategize and Act</u>	<u>Monitor and Evaluate</u>	<u>Expand Your Initiative</u>
			
<ul style="list-style-type: none"> • <u>Assess environment</u> • <u>Select setting</u> • <u>Identify your team</u> • <u>Develop work plan</u> 	<ul style="list-style-type: none"> • <u>Add to policies and contracts</u> • <u>Apply behavioral design</u> • <u>Work with vendors</u> • <u>Consider cultural foods</u> • <u>Collaborate with wellness staff</u> • <u>Use recognition programs</u> 	<ul style="list-style-type: none"> • <u>Monitor guidelines</u> • <u>Evaluate guidelines</u> • <u>Use multiple data sources</u> • <u>Measure reach and impact</u> • <u>Track other benefits</u> 	<ul style="list-style-type: none"> • <u>Apply to new settings or venues</u> • <u>Adapt to places where food is served or distributed</u>

Coalition to Increase Fiber Intake

Coalition for Grain Fiber (CGF)



- **Farmers: field days grain fiber topic**
 - 4-minute intro to CGF's farmer business value
 - Take-home covering business value + 'actions to keep your family healthy with grain fiber'



To Be Revised

laware

State University, Southern University, others) Feb '26

- Plan social entrepreneurship student competition, 'Healthy baked goods for our communities supply chain / business'
- CGF 'case study' to engage students in science education
- Plan community grain fiber community outreach

Increased Fiber Value and Supply Chain

Three Approaches Attractive Today

1. Package 'Helping fight chronic disease with every purchase' (mass balance)
 - Increased-fiber wheat is blended into commodity supply chain
 - Low-cost approach focused on increasing general fiber intake
2. Step-by-step increase in targeted (blended) wheat fiber specifications
 - Supply chain minimizes cost to meet specs
3. Four options available today for increased-fiber white flour and whole grain
 - Price points vary

Nebraska CGF Strategy

Delivering Value *NOW*

Summer 2025

Farmer Outreach (NE and Beyond)

- Leverage CGF farm-business benefits to engage wheat farmers @ field days; handout *also* cover family health

Build Advisory Committee

2025-26

Plan and begin implementing additional outreach / education building on protocols that address chronic disease, by including increased-fiber wheat and other methods to increase fiber intake. E.g., at schools, corporations, and other communities of interest

Public Health Strategy

A Paradigm Shift Learned from History



Food-for-Healthier Lives

- Fluoridated water: cut cavities
- Fortified white flour: reduced birth defects
- Vitamin D dairy: nearly eradicated rickets

Our Attractive Choices

Top Foods' Share of Diet

51%

33%

- Celebrate culture and individual tastes without relying on consumer behavior change.
- Enhance nutrients in intact foods
- Non-GMO wheat
- Embrace environmental values

Coalition for Grain Fiber

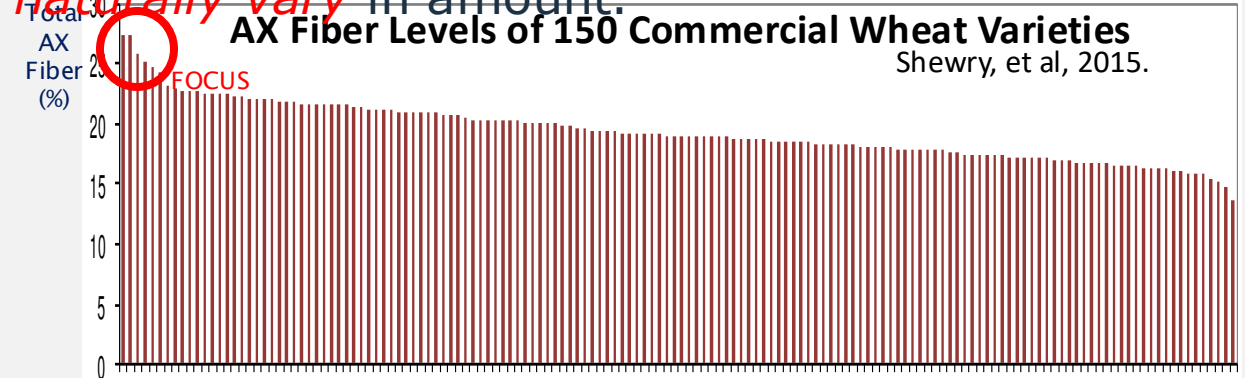
Enrolling the World's Favorite Foods in the Fight Against Disease



54



Situation: Wheat (a non-GMO crop) is the **#1 source of prebiotic components*** in the American diet (33% of total) – although wheat plants **naturally vary** in amount.



Action: Grow wheat varieties with more prebiotic components (fiber) in white flour and whole wheat* to **benefit all socioeconomic groups**, with **no change in consumer behavior**.



* Fiber in endosperm cell walls

We aim for NO consumer price impact on staple foods.

* Wheat is the #1 source for dietary fiber-- an under-consumed nutrient of concern for the entire US population-- according to US Dietary Guidelines and other esteemed scientific bodies globally. Fewer than 5% of individuals incorporate recommended intake in

Increased Fiber Value and Supply Chain

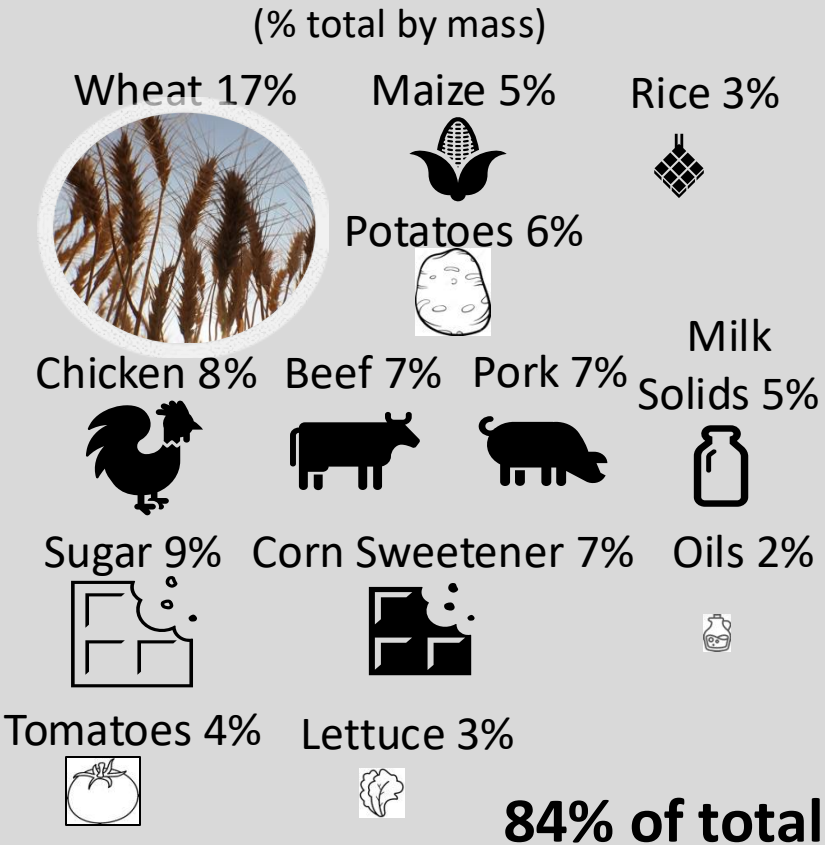
Three Approaches Attractive Today

1. Package 'Helping fight chronic disease with every purchase' (mass balance)
 - Increased-fiber wheat is blended into commodity supply chain
 - Low-cost approach focused on increasing general fiber intake
2. Step-by-step increase in targeted (blended) wheat fiber specifications
 - Supply chain minimizes cost to meet specs
3. Four options available today for increased-fiber white flour and whole grain
 - Price points vary

Beyond Wheat: Foods with Global Impact

Homogeneous Diet and High Health Costs

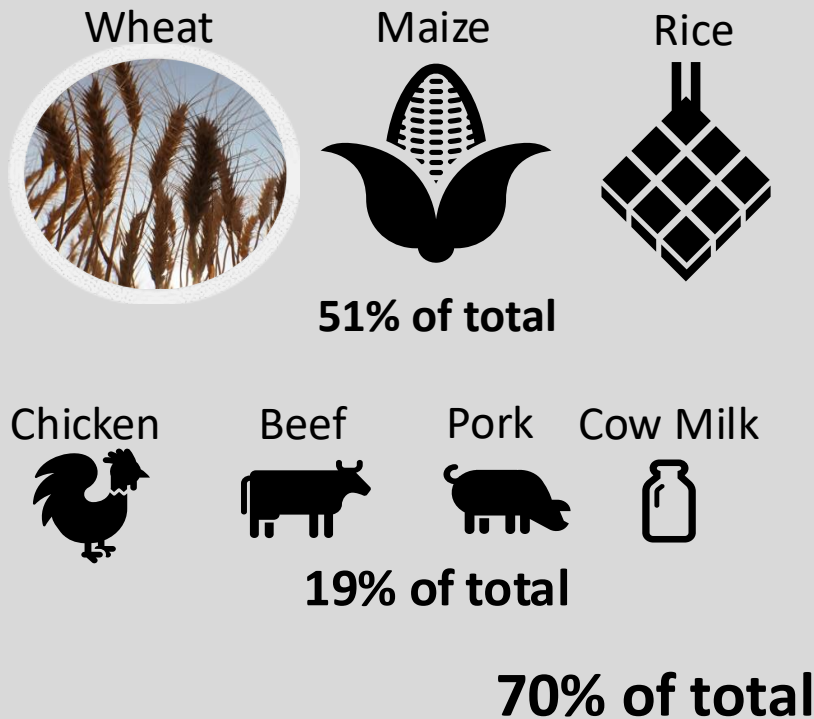
US 13 Most-Consumed Ingredients



9 Highest- Cost Chronic Diseases

	Cost (\$BB)	% US GDP
Mental Illness	418	1.8%
Cardiovascular Disease	363	1.6%
Diabetes	327	1.4%
Alzheimer	305	1.3%
Arthritis	304	1.3%
Cancer	240	1.0%
Obesity	173	0.7%
<u>Pulmonary</u>	50	0.2%
Dental	45	0.2%
Top 9	2,225	10%

World 7 Most-Consumed Foods





**COALITION FOR
GRAIN FIBER**