Growing and Celebrating Local Grains:

How Consumers Connect with Whole and Local Grain Products in a Landscape of Emerging Local Grain Economies

Rebekah Schulz, RD
PhD Candidate, UMN

rediscover goodness
OLDWAYS

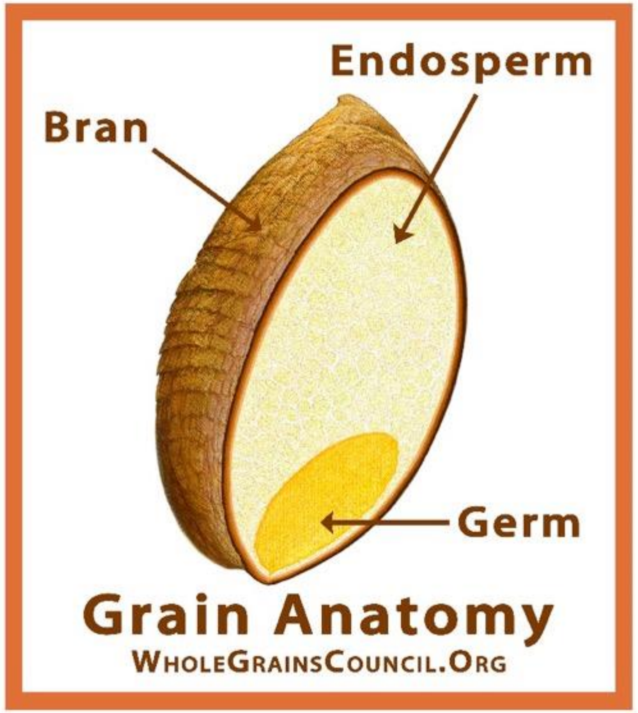
About Oldways

- **Our Vision**
  A healthier, happier life through cultural food traditions.
- **Our Mission**
  We inspire people to embrace the healthy, sustainable joys of the old ways of eating.
- **Best Known for**
  Creating the Mediterranean Diet Pyramid and other Heritage Diet Pyramids, Creating the Whole Grain Stamp, Culinary Travel

About the Oldways Whole Grains Council

Our three-part mission:

- To help consumers find whole grain foods and understand their health benefits
- To help manufacturers and restaurants create delicious whole grain foods
- To help the media write accurate and compelling stories about whole grains



A Few Notes About Today's Session

- Attendees will receive an email within ONE WEEK with a link to the recording and a modified slide deck from today's session
- This session will NOT be available for CPEU credit
- Please submit your questions using the Q&A function in Zoom

- Happy International Whole Grain Day!

Growing and Celebrating Local Grains: How Consumers Connect with Whole and Local Grain Products in a Landscape of Emerging Local Grain Economies

Rebekah Schulz, RD, PhD Candidate

University of Minnesota

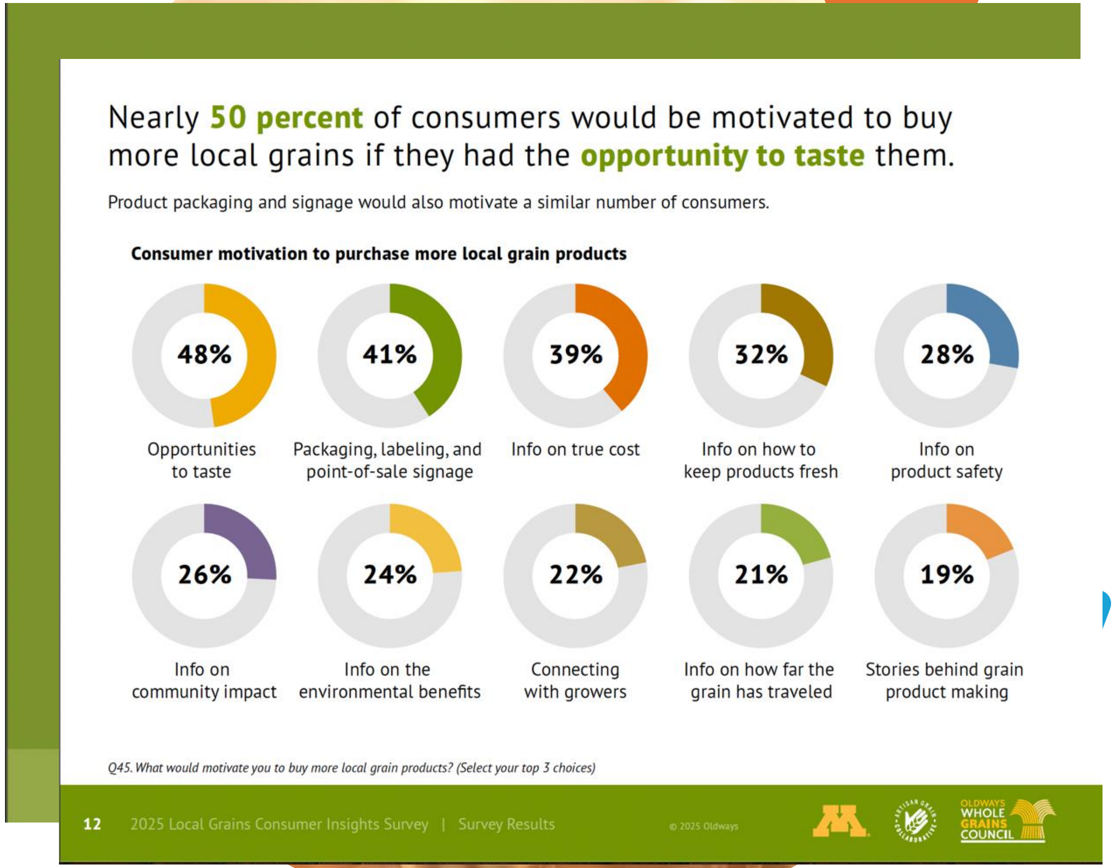
Photo credit: Jenny Haglund, Bird Dog Baking

Happy International Whole Grain Day, 2025!

Overview

- Whole and Local Grain Scoping Review findings
  - Methods
  - Key Factors in whole grain, alternative grain networks & local grain consumer acceptance
  - Recommendations
- 2025 Whole Grains Council Survey - Local Grain Findings
  - Key Findings
  - Profiling of local grain consumer segments
- Summary
- Q& R

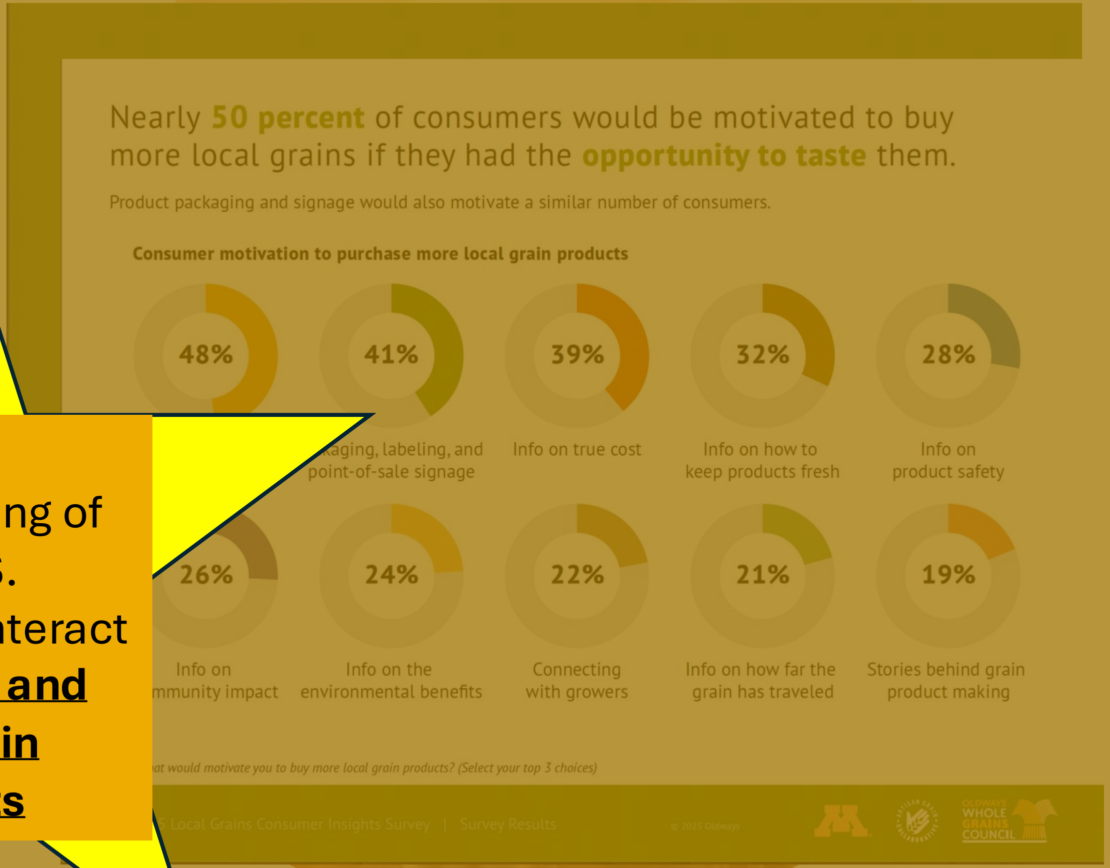
- **Alternative grain network = local grain economies



Overview

- Whole and Local Grain Scoping Review findings
    - Methods
    - Key Factors in Whole Grain Consumption
    - Campaign Recommendations
    - Consumer acceptance of
      & local grain products
- 2025 Whole Grains Council Con
  Local Grain Findings
    - Key Findings
    - Profiling of local grain consumer segm
- Summary
- Q& R

Better understanding of how U.S. consumers interact with **whole and local grain products**



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Webinar Roadmap

- Scoping review – Whole Grains
- Scoping review results – Alternative Grain Networks & Local Grain products
- Whole Grains Council – Local grain survey summary
- Better understanding of how consumers interact with whole and local grain products

Webinar Roadmap

Scoping review – Whole Grains

Scoping review – Alternative Grain Networks & Local Grain products

Whole Grains Council – Local grain survey summary

Better understanding of how consumers interact with **whole and local grain products**

Webinar Roadmap

Scoping review results – Whole Grains

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Better understanding of how consumers interact with **whole and local grain products**

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Better understanding of how U.S. consumers interact with **<u>whole and local grain products</u>**

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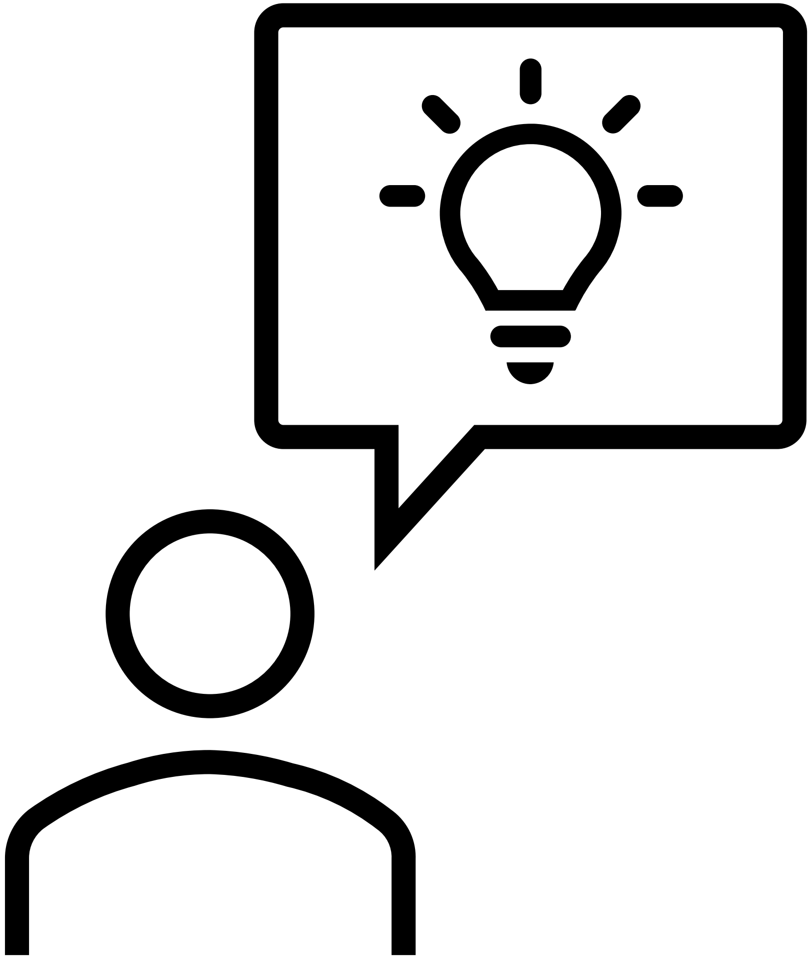
Scoping review – Whole Grains

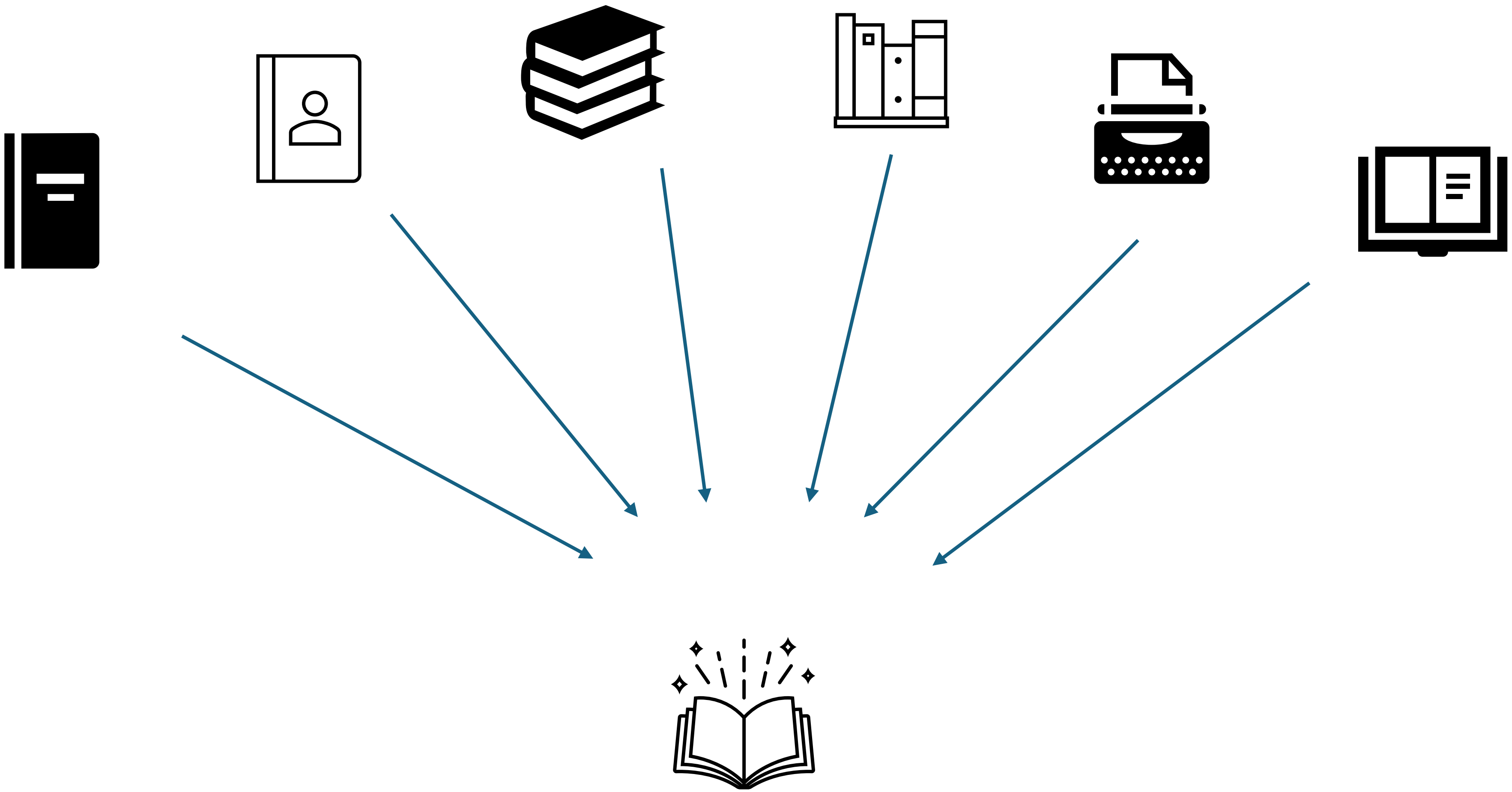
Scoping review – Alternative Grain Networks & Local Grain products

Whole Grains Council – Local grain survey summary

Better understanding of how U.S. consumers interact with **whole and local grain products**

What is a scoping review??





Scoping review process

Define research questions
- RQ1
- RQ2
- RQ3

Define criteria
- Exclusion criteria
- Inclusion criteria

Define search strategy
- Terms
- Databases

Conduct search
- Screening
- Extraction
- Synthesis

Scoping Review Overview

- RQ1: What are the key factors influencing U.S. consumers' acceptance of grains including reasons that motivate or deter consumption such as nutrition, price, dietary practices, and taste?"

- RQ2a: What are the key factors influencing U.S. consumers' acceptance of local/regional grain products?"

- RQ2b: How do U.S. consumers engage with grains including through the commodity grain system or alternative grain networks (AGNs)?

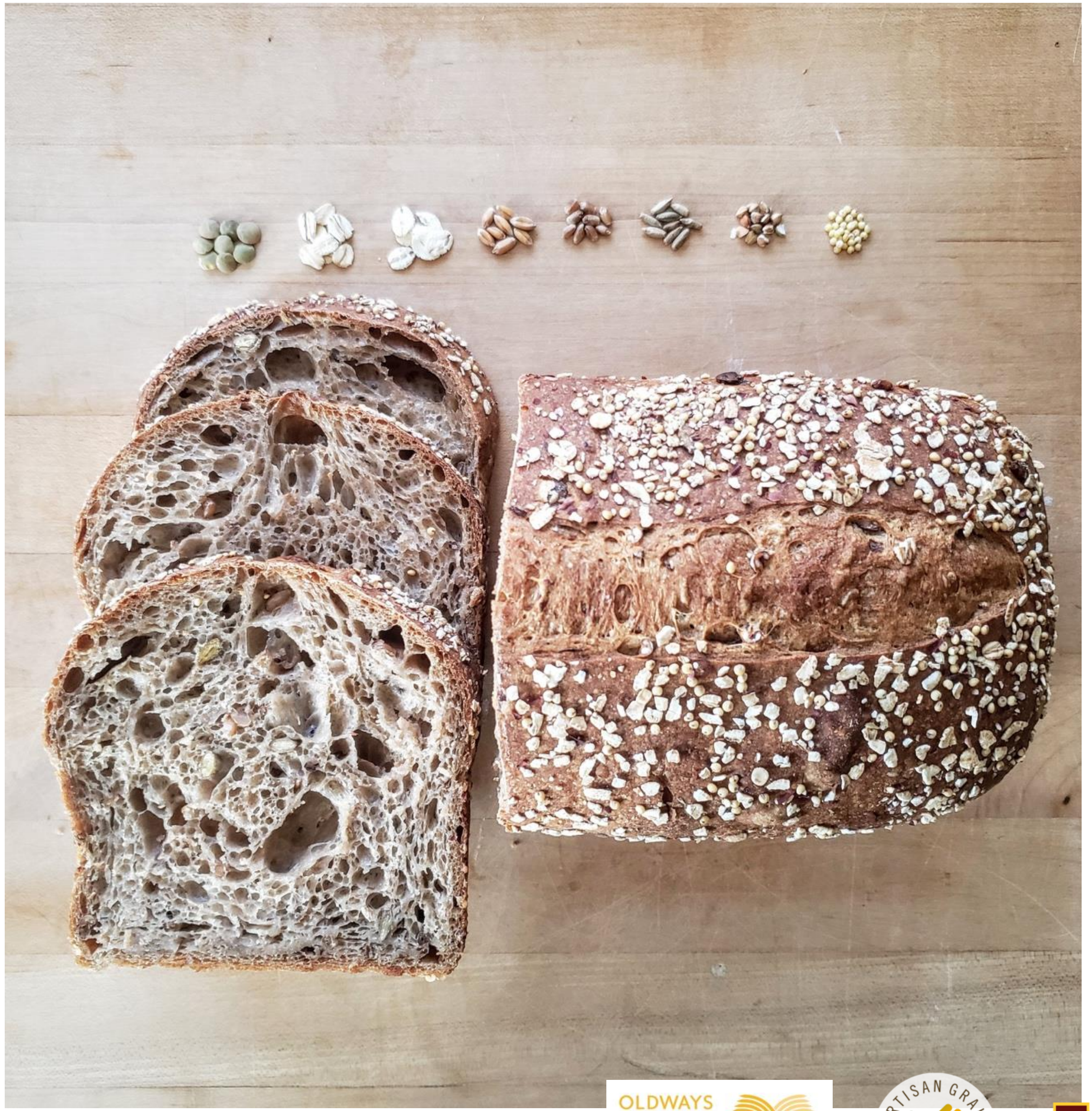


Photo credit: Jenny Haglund, Bird Dog Baking

Scoping Review Methods

<u>Inclusion</u> criteria:

- Addressed key elements of the research questions
- Published in 2013 or later
- English-language articles
- Article types: dissertations, theses, and peer-reviewed journal articles

Scoping Review Methods

<u>Exclusion</u> criteria:

- producer interactions
- non-food grains
- grain based or grain additive products from a consumer sensory acceptability, food product acceptability or modification, food quality, ingredient formulation study, and/or from a food science formulaic lens
- Specific health outcomes or health interventions related to grain consumption
- Market analysis of grains
- Food-waste of grains

Photo credit: Meadowlark Farm & Mill

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Scoping Review Methods

- Defined 5 databases
- Defined search strategy
- Conducted search
- Entered findings into Covidence
- Screening

14,155 articles

2 rounds of screening: abstract screening & full text screening

31 articles

Hand search method retrieved an additional article

32 articles

29 - whole grains & other grain products
3- alternative grain networks & local grains

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Consumer Acceptance of Grain Foods

Psychographic factors (attitude, health consciousness, knowledge, beliefs, perception)

Socio-demographic factors (education, age, gender, household, nationality, geographic location)

Built environment and community programming factors (shopping location, program participation (i.e., CSA)

Consumer Acceptance
Attitude, WTP, perception, etc.

Product related attributes (taste, health info, ingredients, brand, time, need to prepare, prep knowledge)

*WTP=willingness to pay

Key Factors affecting **Whole Grain Consumer** Acceptance

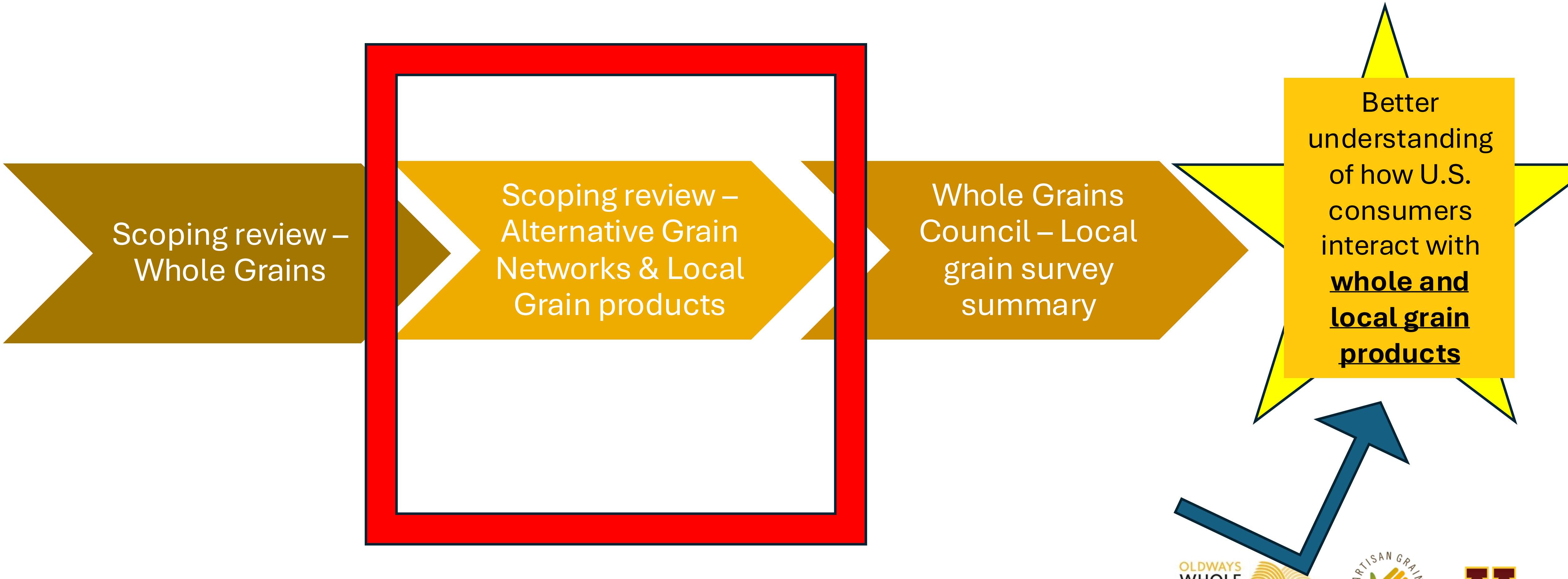
Taste

Price

Familiarity

Education/Knowledge

Webinar Roadmap



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What is an alternative grain network?

- Synonyms: regional grain chain, alternative grain economy, local grain economy, grain-shed
- Alternative food networks networks > Alternative grain networks
- An alternative to the industrial – commodity grain paradigm (Maughan et al., 2025)

Photo credit: Jae Arnold

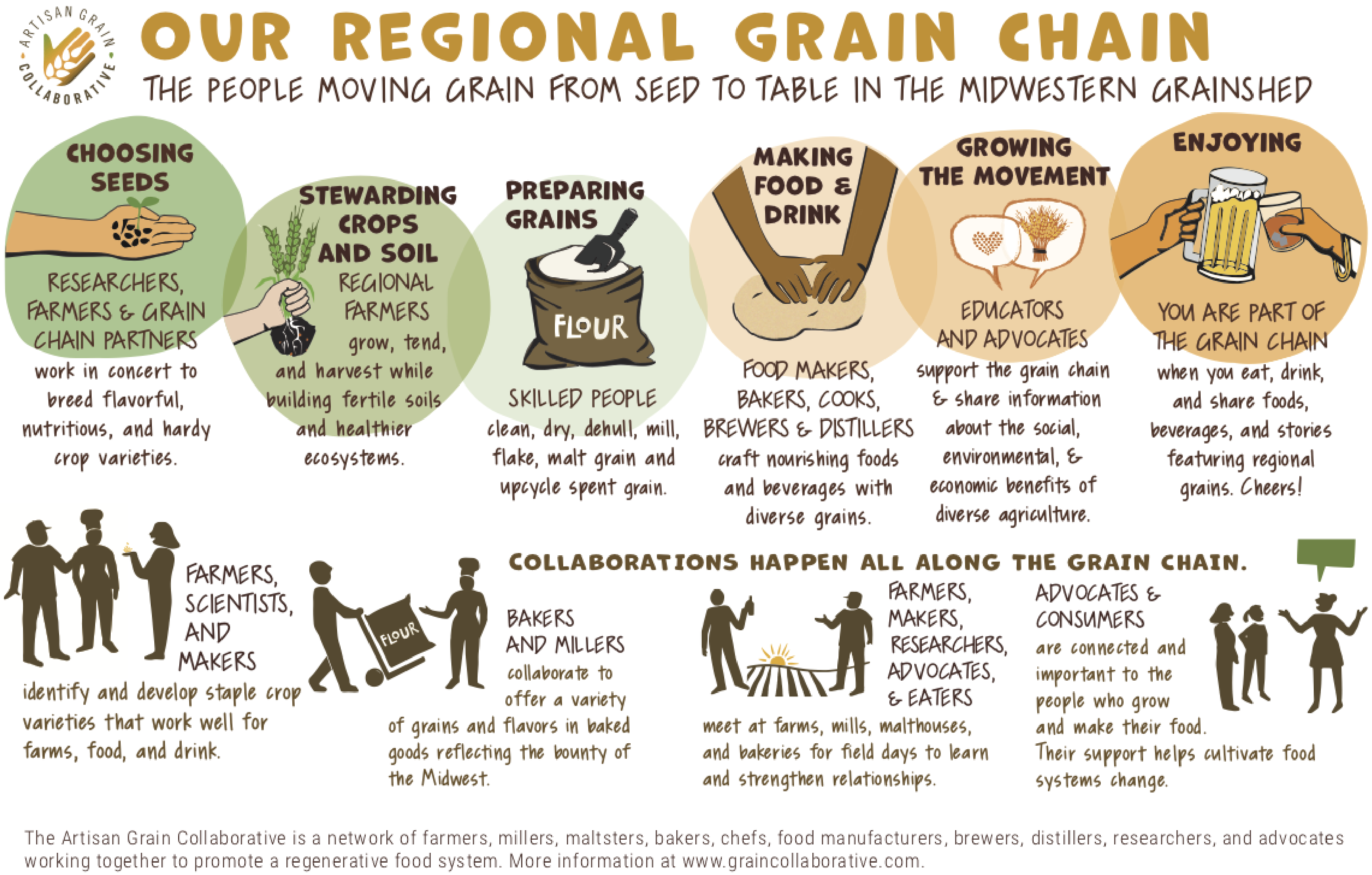

Image credit: Artisan Grain Collaborative
Photo credit: AGC, Beth Dooley, and Granor Farms

Alternative Grain Network Documentation

Appendix A. Alternative Grain Networks in the U.S. (Selection)

Initiative name	Year founded	Location	Involved actors	Size*	Aim	Website
Whole Grain Connection	2000	California	• Farmers • Bakers • Consumers	Small	Enhancing the desirability and availability of whole grain breads and other whole grain products from organically, sustainably grown grains and thereby connecting farmers and bakers.	http://wholegrainconnection.org
Carolina Gold Rice Foundation	2004	South Carolina	• Breeders • Farmers • Millers • Chefs • Bakers • Educators	Large	Rebuilding the fundamentals of local culinary heritage through scholarship, research, farming, exploration, pro bono rare seed distribution, and good wholesome food.	https://www.thecarolinagoldricefoundation.org
Maine Grain Alliance	2007	Maine	• Farmers • Millers • Malsters • Bakers • Brewers • Processors • Consumers	Large	Inspiring and empowering people who are building local grain economies by connecting people and supporting the economic, environmental, and nutritional importance of establishing regional grain economies.	https://www.kneadingconference.com
GrowNYC Grains	2009	New York City, New Jersey	• Farmers • Processors • Bakers • Chefs	Medium	With our partners, and through our farmers market retail program, we built the marketplace for grains grown and milled in the Northeast. We are educating and connecting growers, processors, bakers, and chefs—sparking a rise in demand for local grains while helping ensure that the crop supply and processing infrastructure are there to meet the demand.	https://www.grownyc.org/grains
				Medium	Bringing more affordable, great tasting bread to the world one loaf at a time. Or maybe faster than that.	https://www.breadlab.wsu.edu

ity

ournal of Agriculture, Food Systems, and Community Development
SSN: 2152-0801 online
ttps://foodsystemsjournal.org

Establishing alternative grain networks: A comparison of case experiences in South Tyrol, Italy, and Colorado, United States

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Giovanna Sacchi,[b] Camilla Sartori,[c] and Christian Fischer [d]
Free University of Bozen-Bolzano

Webinar Roadmap

Scoping review – Whole Grains

Scoping review – Alternative Grain Networks & Local Grain products

Whole Grains Council – Local grain survey summary

Better understanding of how U.S. consumers interact with **whole and local grain products**

Local Grain Survey

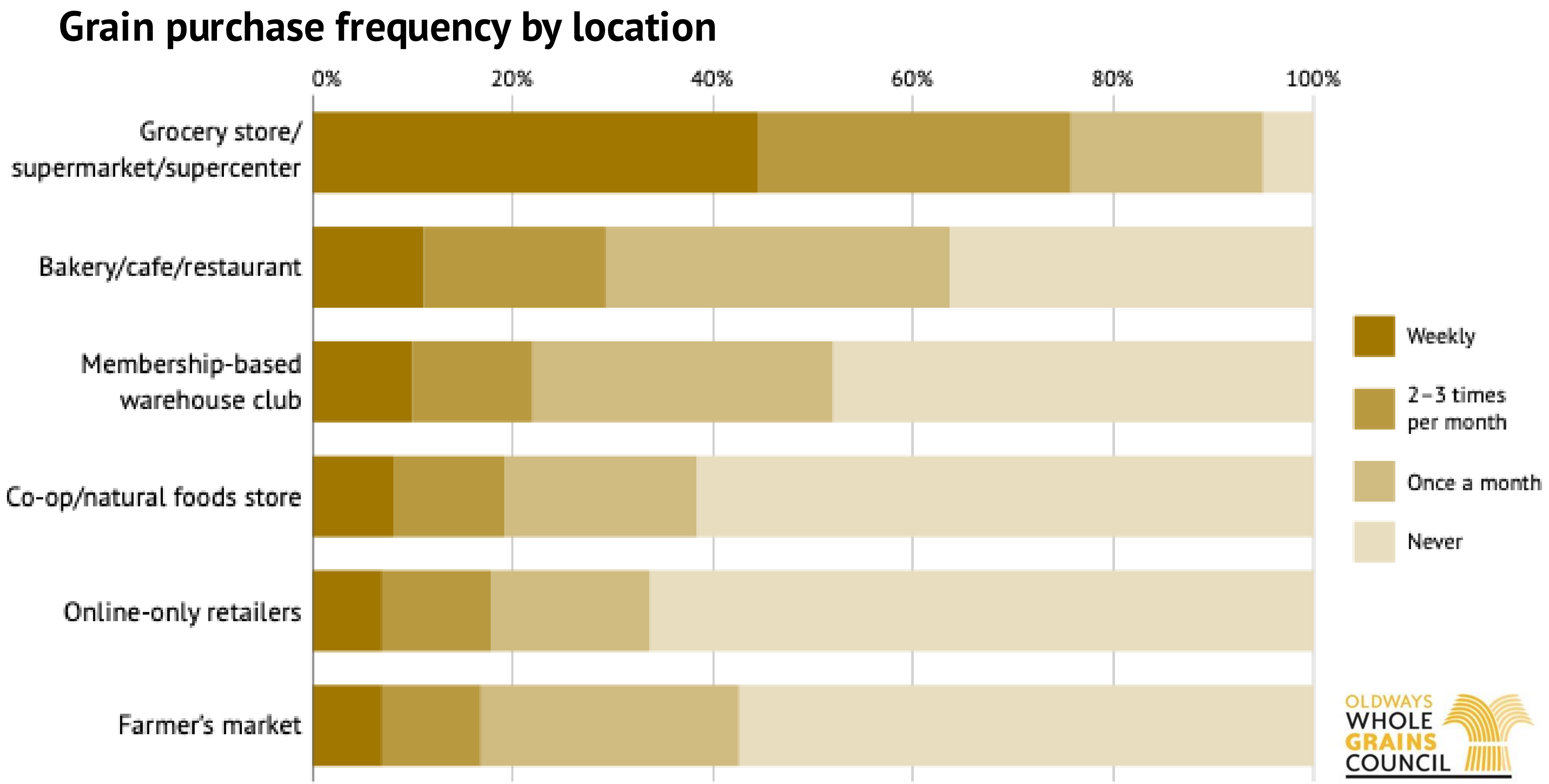
- A partnership between the Artisan Grain Collaborative (AGC), the University of Minnesota, and the Oldways Whole Grains Council (WGC) uncovered key insights about how consumers think about local grains.

- The WGC's survey of American adults was conducted from May 29–June 6, 2025 and consisted of 1500 census-representative respondents, the majority of whom were the primary grocery buyers in their households, with ages ranging from 18–92.

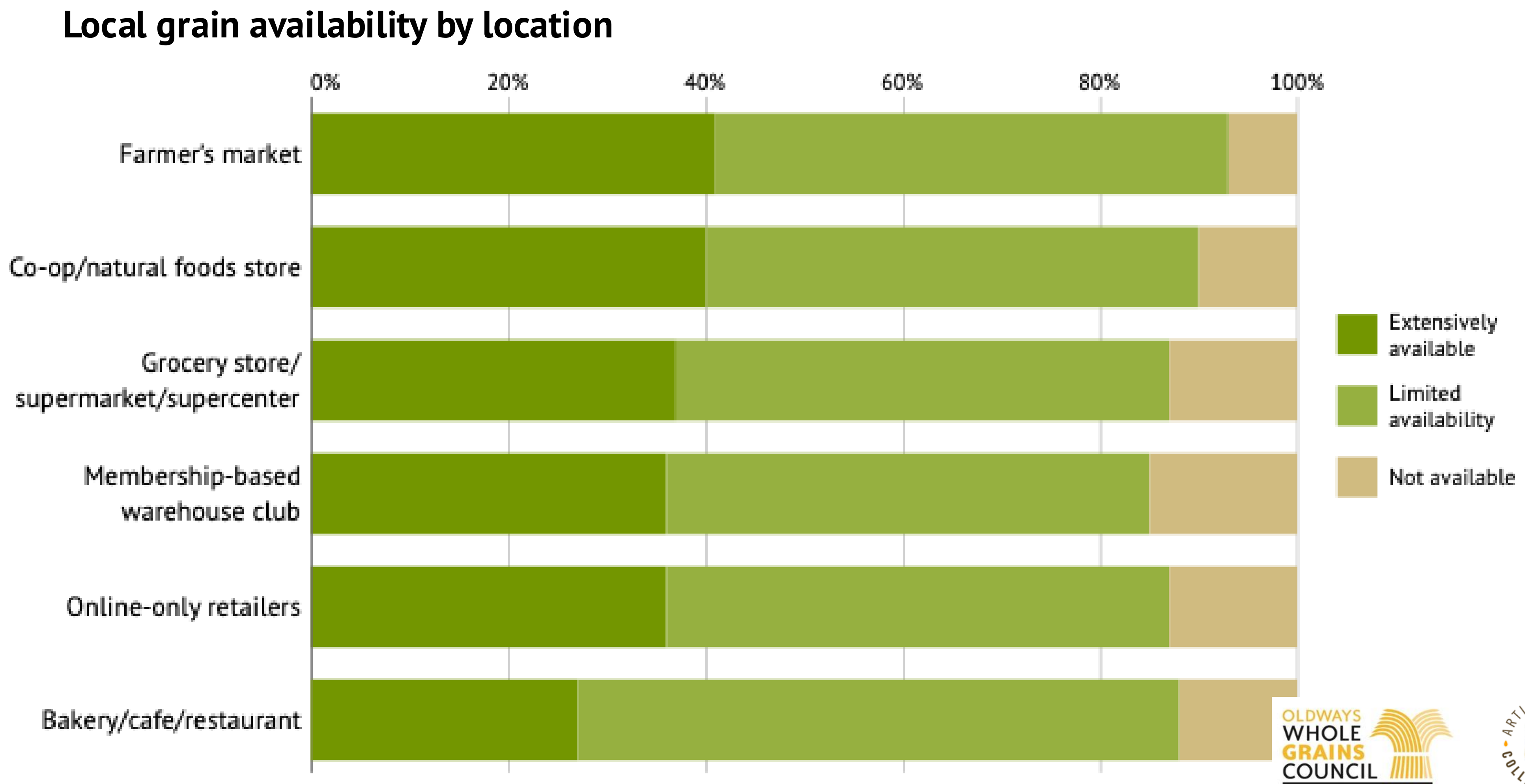
- As a subset of the 76 total questions included in the greater 2025 Whole Grain Consumer Insight Survey, AGC asked eight questions geared toward understanding consumer perceptions, attitudes, barriers, and motivators, specifically about local grains.

The majority of consumers shop most frequently for grain products at supermarkets.

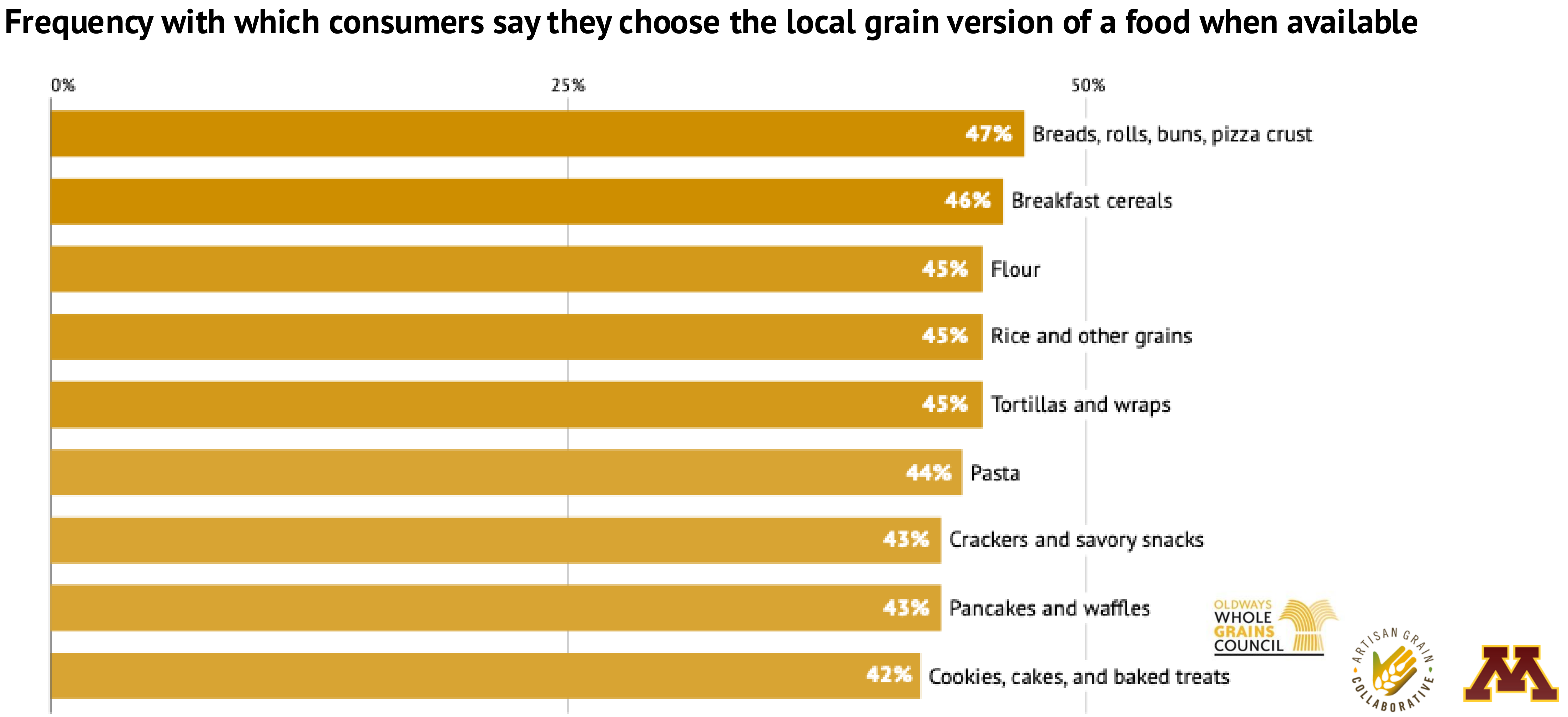
Although few consumers shop weekly for grain products at farmer's markets, 43% of consumers report buying grains products at a farmer's market at least once a month.



Consumers find local grains most often at farmer's markets and co-ops.



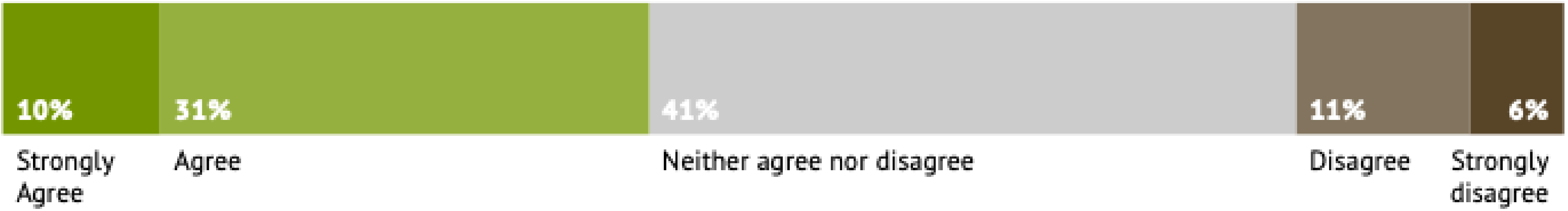
Consumers are interested in local versions of all grain products with no preference for a certain type of grain food.



Over 40 percent of consumers value grain products made with local grains.

An equal number of consumers expressed ambivalence toward local grains; these may be consumers who would be receptive to outreach and education about the value of local grains.

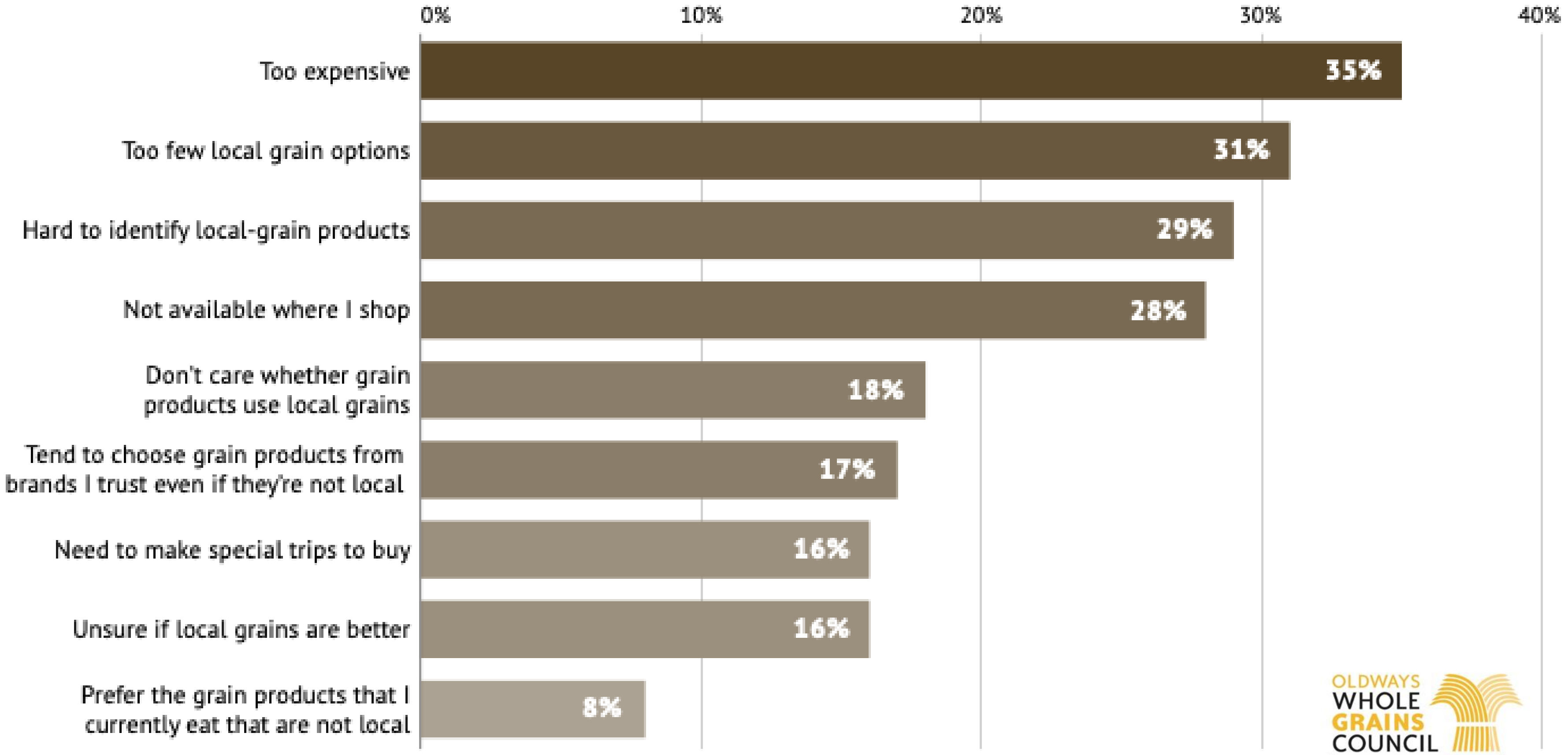
Consumer agreement with the statement: "I care where the grain in my grain products is grown and that it is local."



The largest barrier to purchasing more local grains is cost.

Lack of availability and difficulty identifying local grains were also reported as significant barriers.

Barriers to purchasing foods made with local grains



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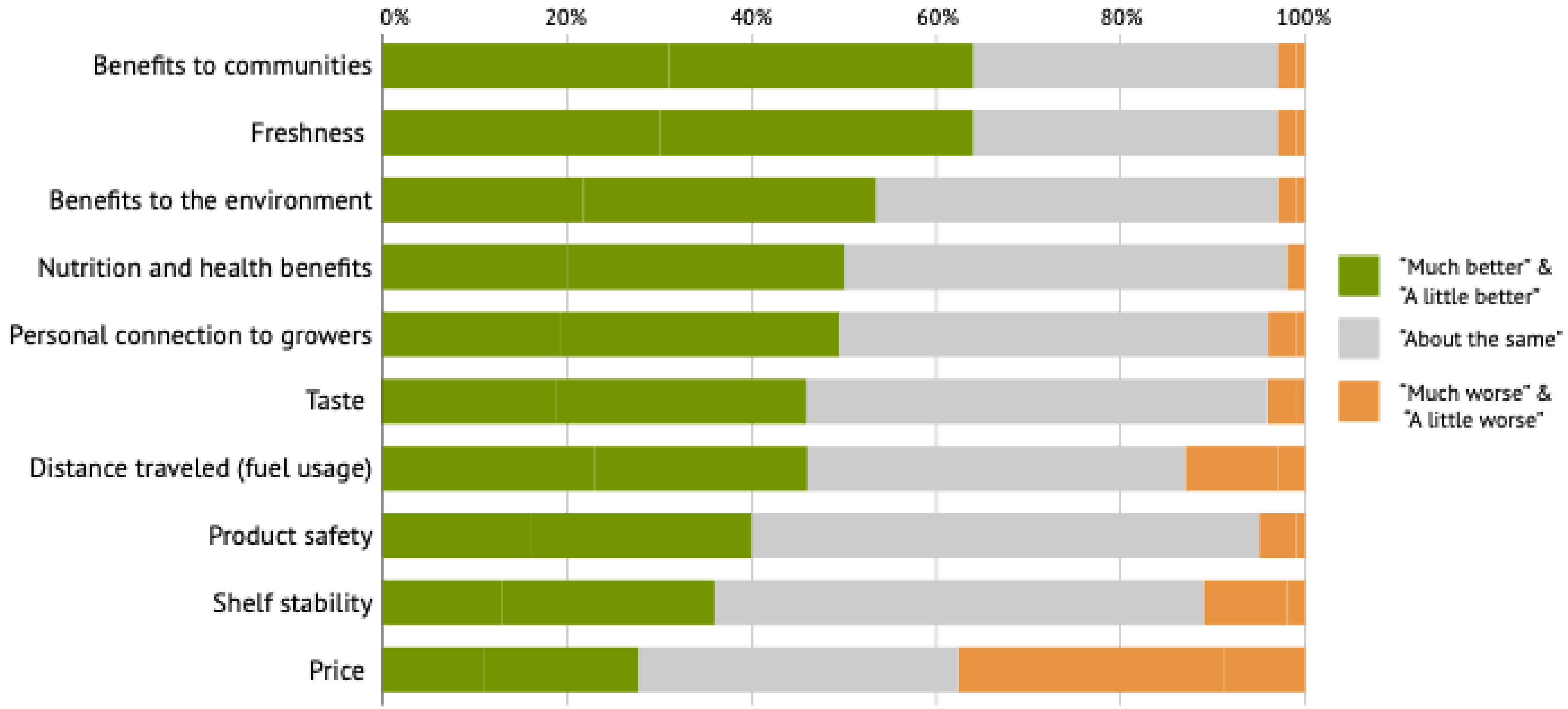
Three out of five consumers believe local grains offer a better benefit to communities than non-local grains do.

Over 50% of consumers also consider local grain's freshness, benefits to the environment, and nutrition and health benefits to be superior to non-local grains.

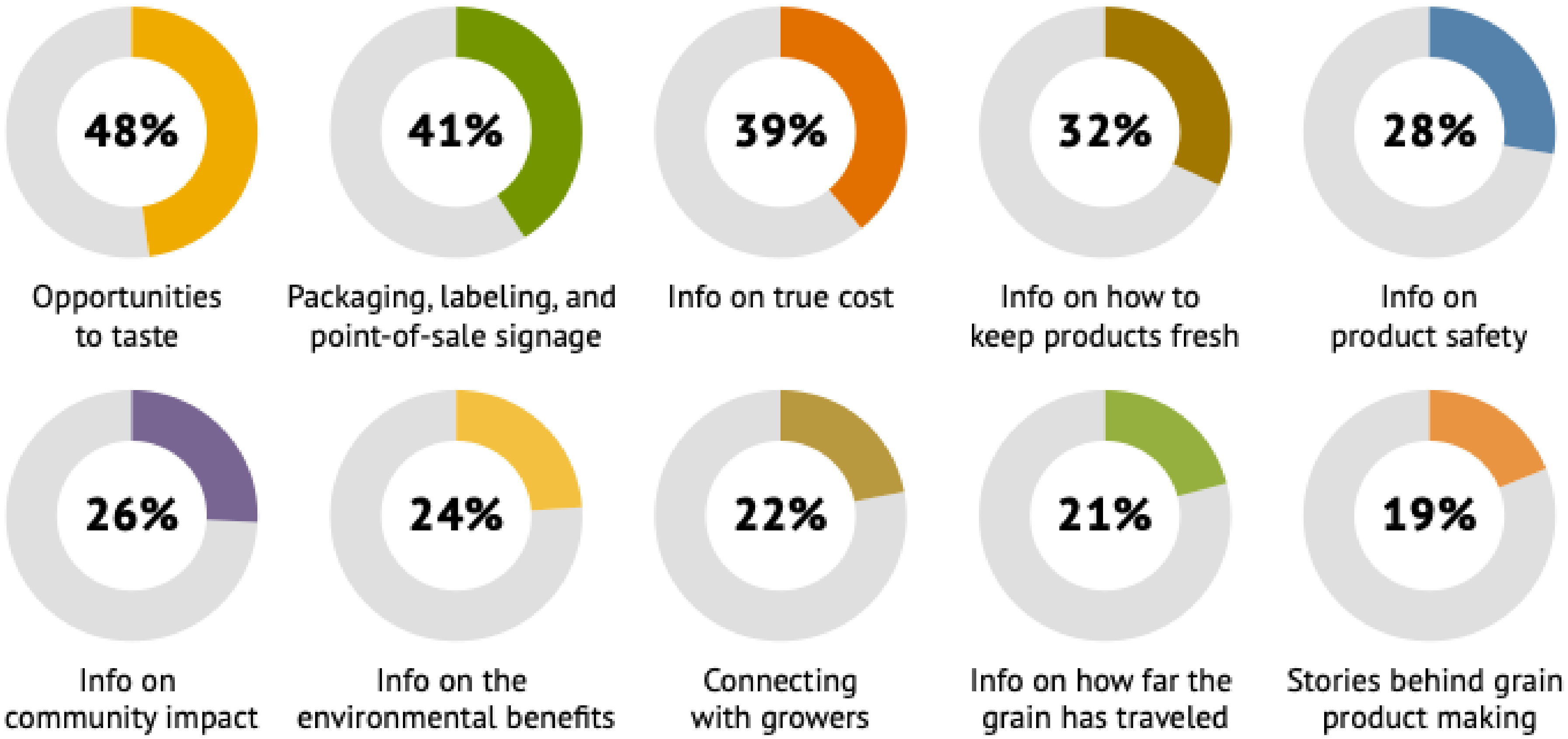
Ranking of attributes of local versus non-local grains



Nearly 50 percent of consumers would be motivated to buy more local grains if they had the opportunity to taste them.

Product packaging and signage would also motivate a similar number of consumers.

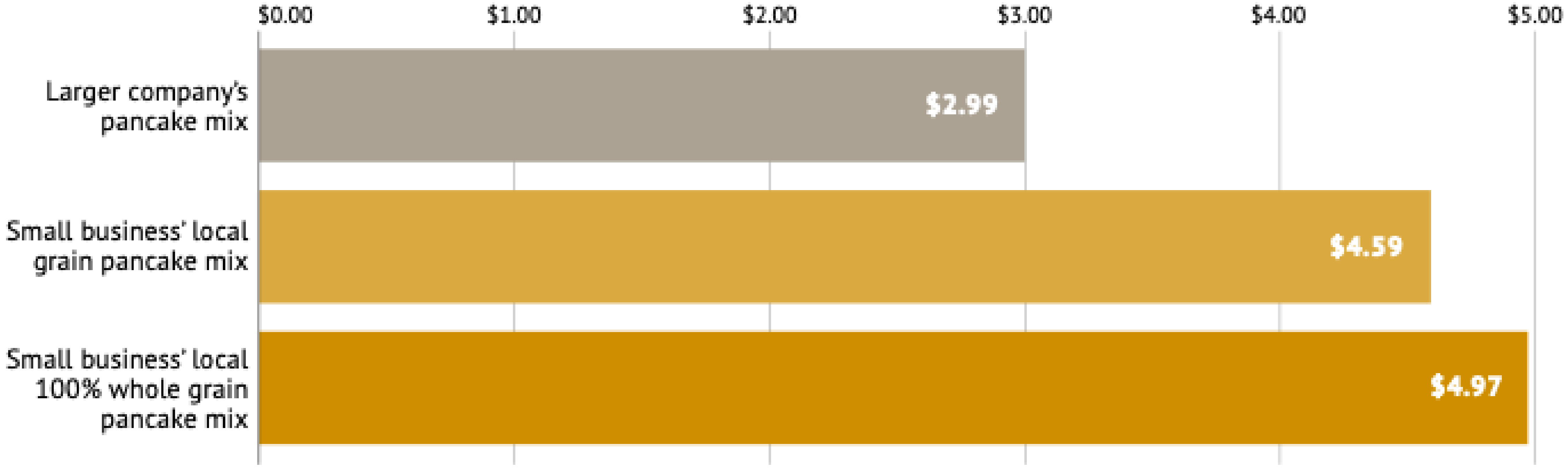
Consumer motivation to purchase more local grain products



When asked to compare a local grain pancake mix from a small business to an identical commodity grain mix from a larger company costing $2.99, consumers were willing to pay an average of $1.60 more for the local grain mix.

Consumers further reported that they would pay a $1.98 premium if the local grain mix was 100% whole grain and the commodity mix was refined grain.

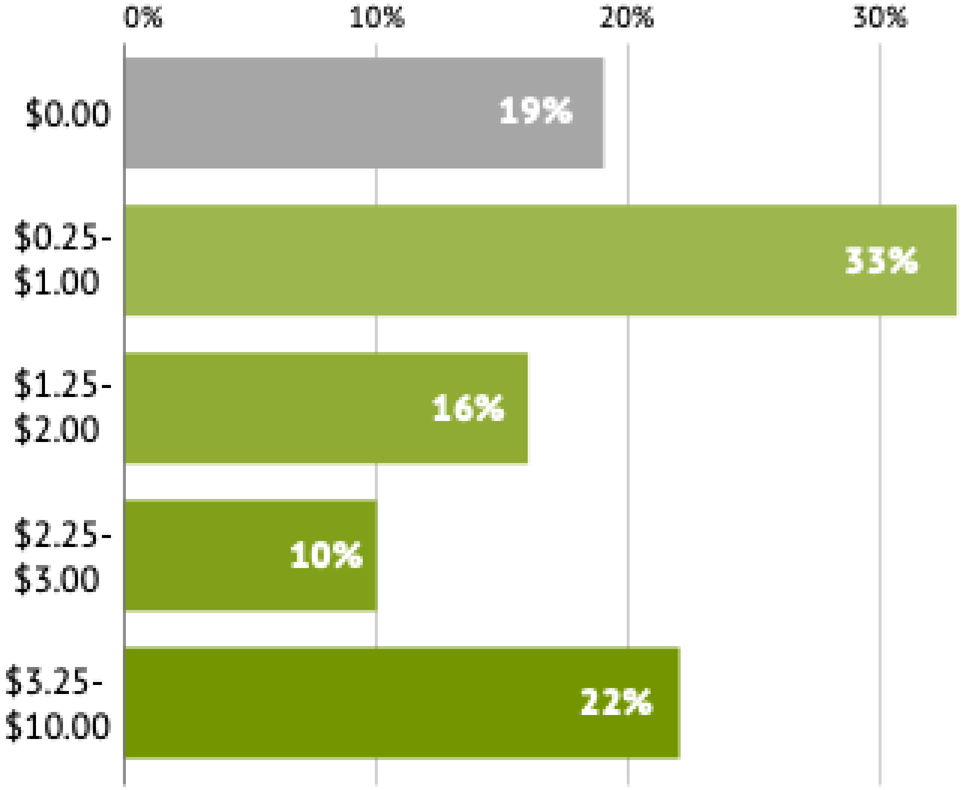
Consumer willingness to pay for local grain pancake mixes



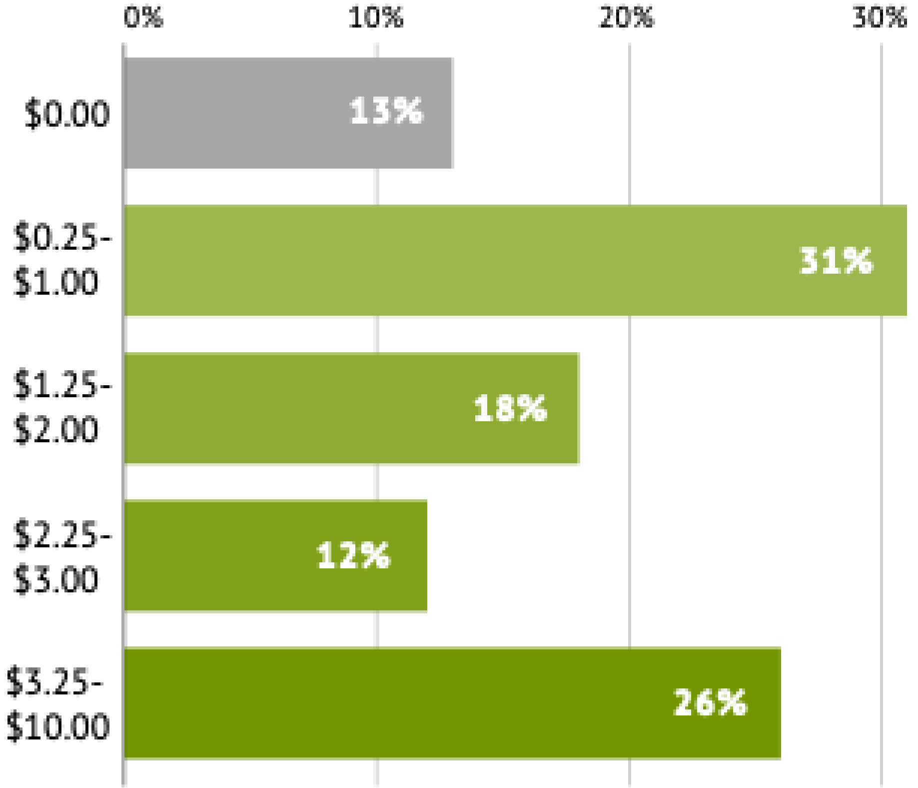
81% of consumers are willing to pay a premium for a local grain pancake mix.
87% are willing to pay a premium if the local grain mix is also whole grain.

For both the local grain mix and the local whole grain mix, about one in four consumers is willing to pay a total of *at least* $6.24.

Premiums consumers would pay for a pancake mix made with local grains



Premiums consumers would pay for a pancake mix made with local *whole* grains

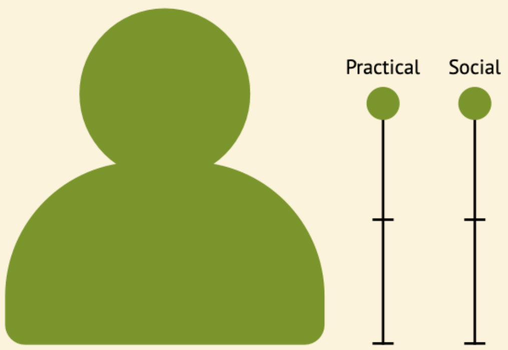


Insights from Consumer Segmentation

Based on the statistical analysis that we performed, we found that there are **three types of consumers** when it comes to how people think about local grains—the **Local Grain Enthusiast**, the **Local Grain Idealist**, and the **Local Grain Value Skeptic**. These three consumers segments are based on how consumers value two types of attributes:

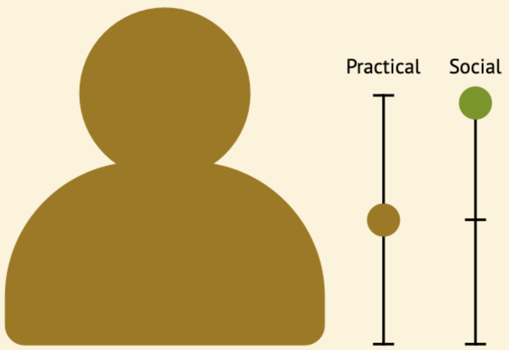
1. **The practical aspects of grain** (e.g., their nutrition and freshness)
2. **The social/personal aspects of grain** (e.g., benefit to the environment and connection to the local community)

Local Grain Enthusiasts



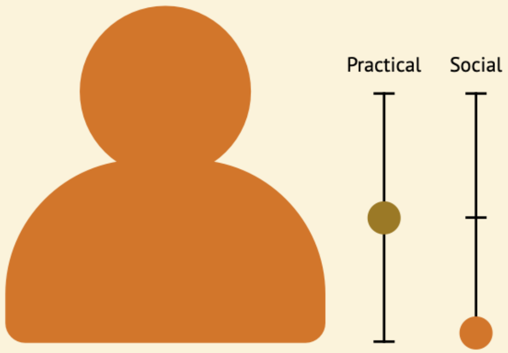
Value local grains for their practical, social, and environmental benefits

Local Grain Idealists



Value local grains for their social and environmental benefits, but are unconvinced of their practical benefits

Local Grain Value Skeptics



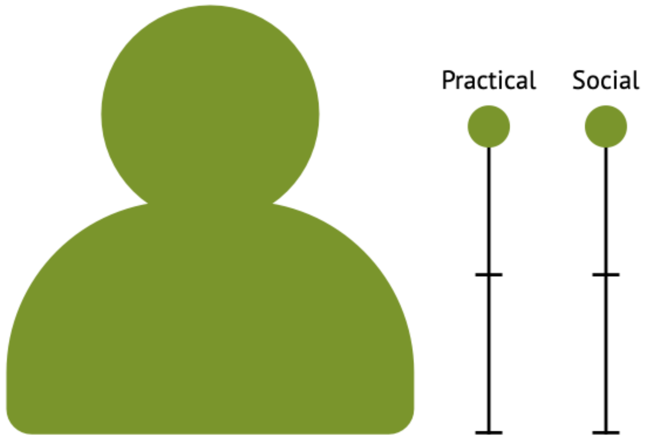
Skeptical of local grains' social and environmental benefits and neutral on their practical benefits

Local Grain Enthusiasts

Individuals who value local grains for their social and environmental benefits, as well as their practical attributes.

Local Grain Enthusiasts have the following sociodemographic characteristics:

- More likely to be parents (**41%**) than both the Idealists (31%) and Value Skeptics (21%)
- More likely to be from the younger generations (Gen Z & Millennials) (**43%**) than Value Skeptics (24%), but not significantly different from Idealists (37%)
- More likely to identify as Black/African American or Hispanic/Latinx (**42%**), compared to Idealists (31%) and Value Skeptics (26%)
- More likely to be urban dwellers (**38%**) than Idealists (27%) and Value Skeptics (26%)

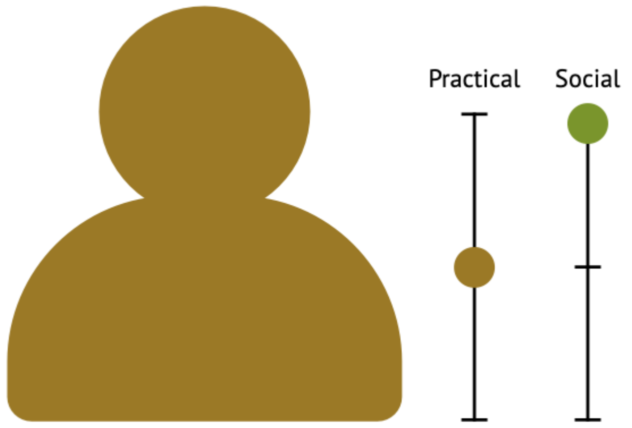


Local Grain Idealists

Individuals who value local grains for their social and environmental benefits but are unconvinced about their practical attributes.

Local Grain Idealists have the following sociodemographic characteristics:

- Less likely to be parents (**31%**) than the Enthusiasts (41%) but more likely to be parents than the Value Skeptics (21%)
- More likely to be from the younger generations (Gen Z & Millennials) (**37%**) than Value Skeptics (24%), similar to Enthusiasts (43%)
- More likely to identify as White (**75%**) than Enthusiasts (56%), similar to Value Skeptics (71%)
- More likely to be suburban dwellers (**58%**) than Enthusiasts (46%), similar to Value Skeptics (57%)

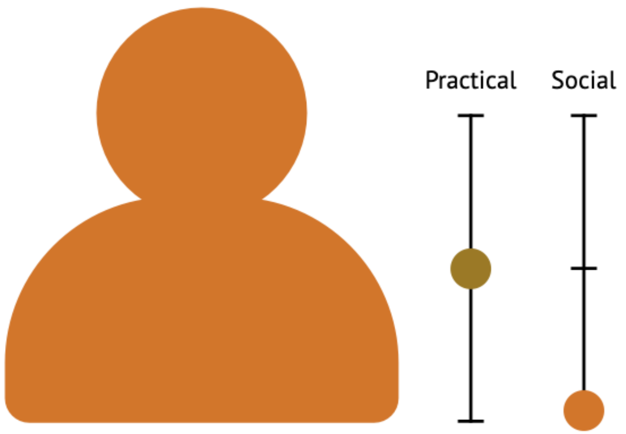


Local Grain Value Skeptics

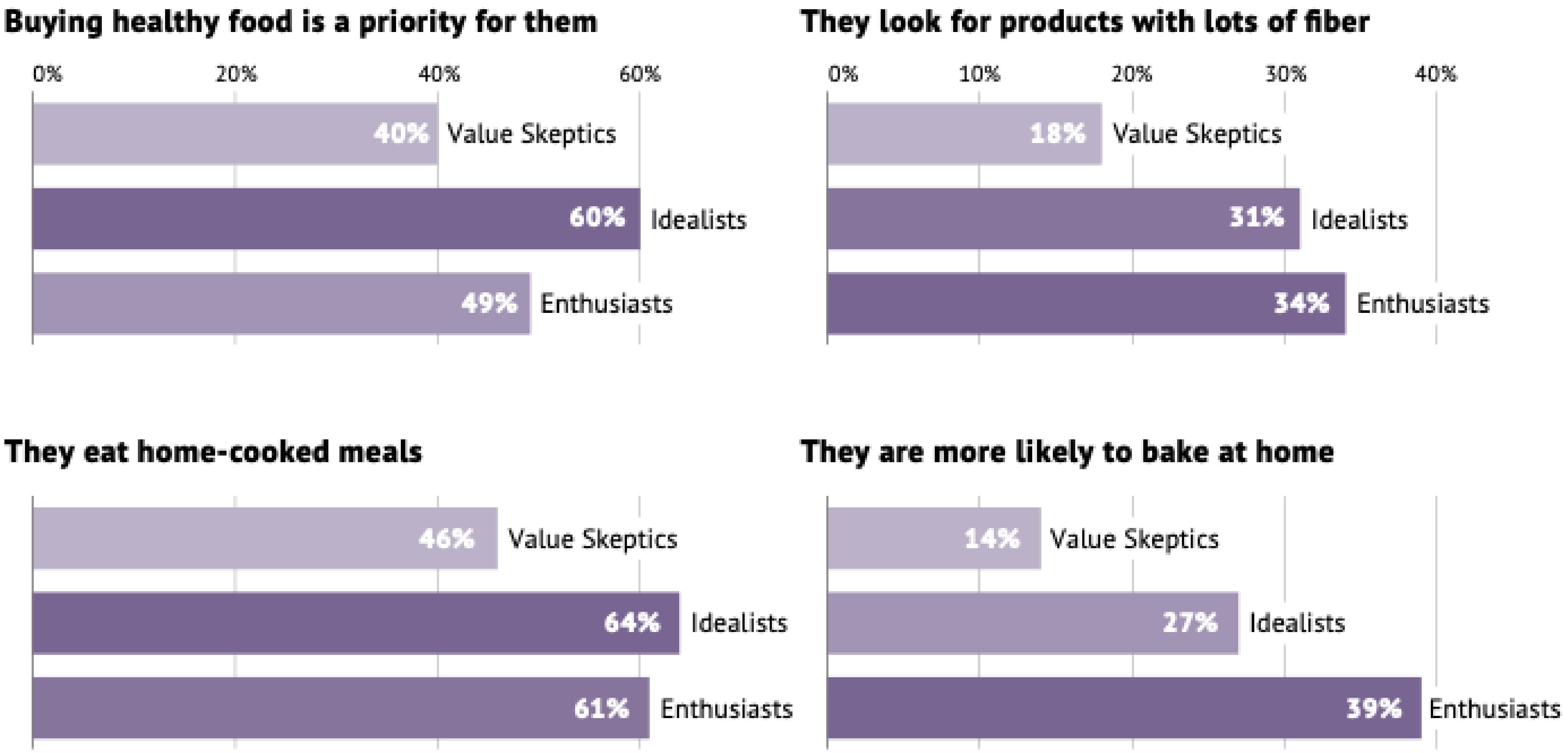
Individuals who are skeptical of the social and environmental benefits of local grains and regard their practical attributes as comparable to those of commodity grains.

Local Grain Value Skeptics have the following sociodemographic characteristics:

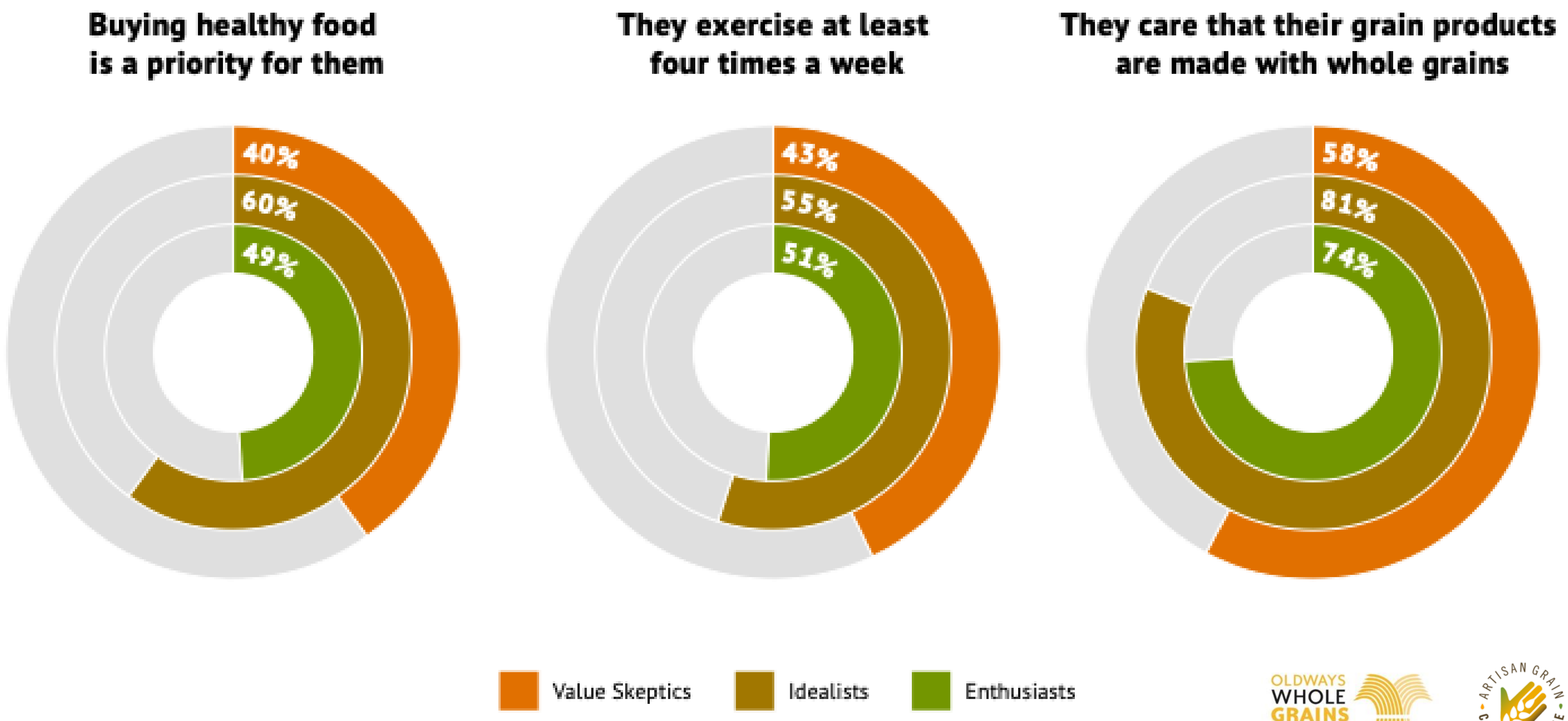
- Less likely to be parents (**21%**) than both the Enthusiasts (41%) and Idealists (31%)
- More likely to be from the older generations (Gen X, Boomers, & the Silent Gen) (**76%**) than both Enthusiasts (57%) and Idealists (63%)
- More likely to identify as White (**71%**), than Enthusiasts (56%), similar to Idealists (75%)
- More likely to be suburban dwellers (**57%**) than Enthusiasts (46%), similar to Idealists (58%)



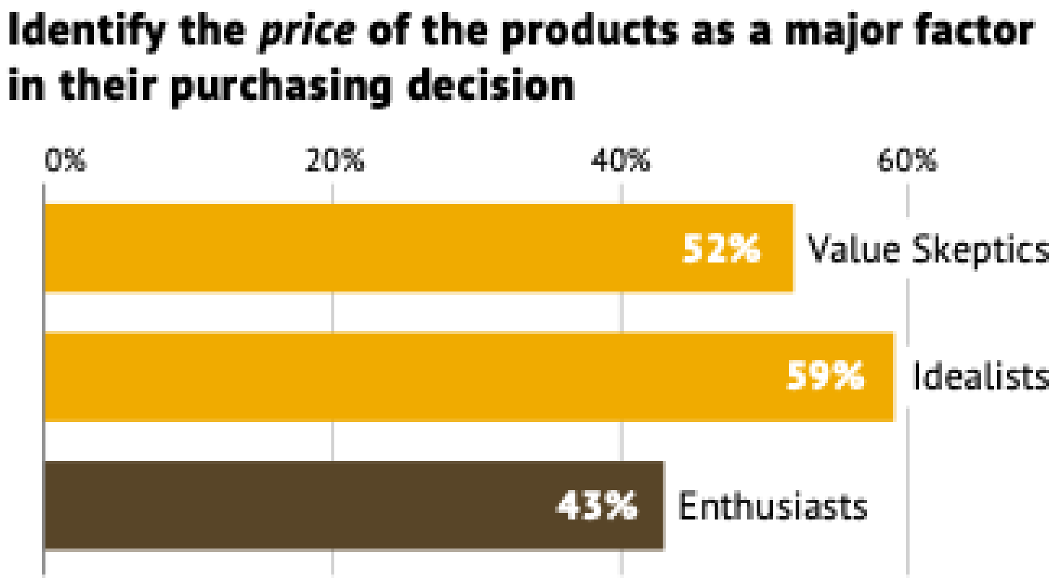
When it comes to their general food preferences, Enthusiasts and Idealists are more likely to say:

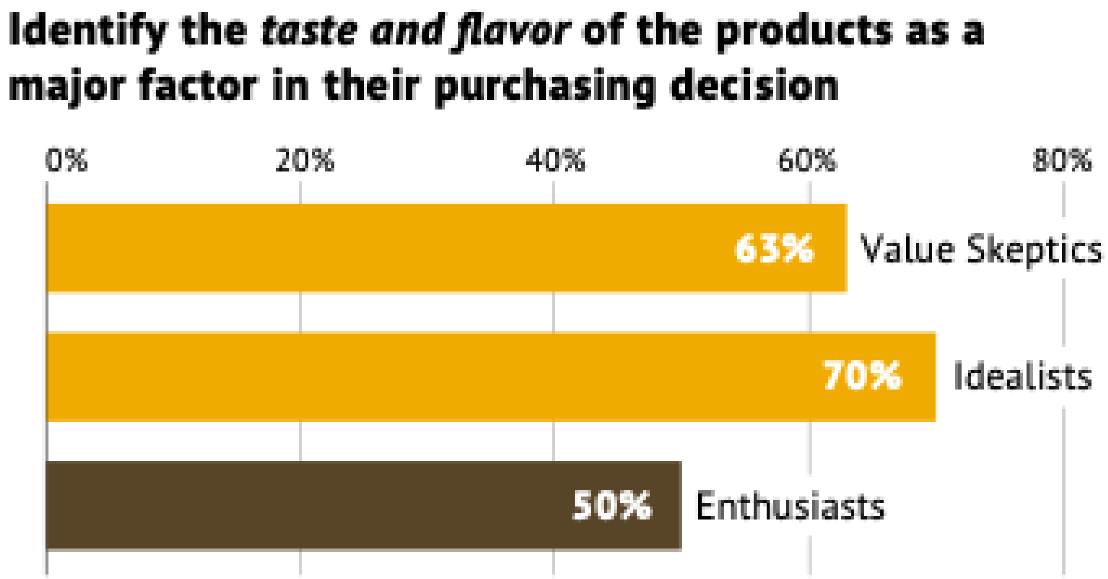


Enthusiasts and Idealists tend to prioritize health more than Value Skeptics. They are more likely to say:



Enthusiasts tend to be enthusiastic about grain products with fewer barriers affecting their purchasing decisions. They are less likely to:

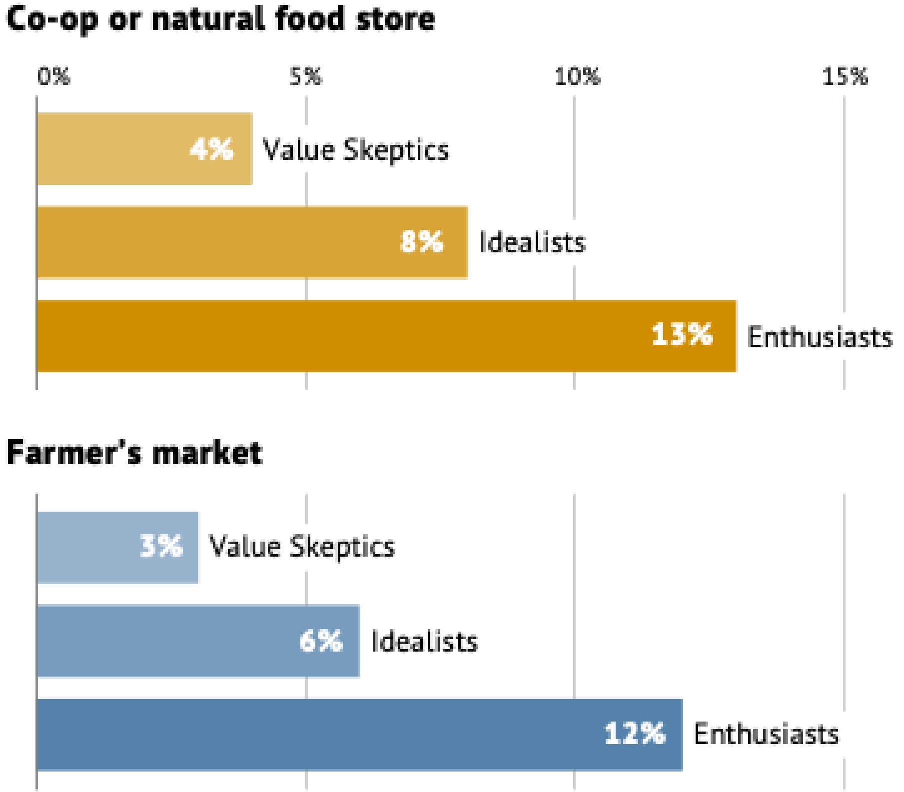




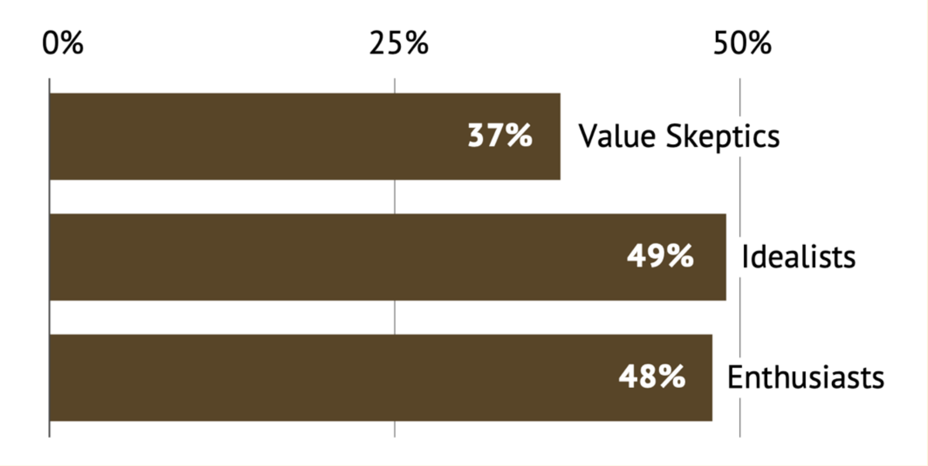
As shown above, **Idealists** and **Value Skeptics** are more likely to say that price and taste of a product are a major factor in their purchasing decision.

Enthusiasts and Idealists are more likely to buy grain products weekly from co-ops or natural food stores and farmer's markets.

These are the locations where local grain products are the most widely available. Value Skeptics may be less likely to engage with local grain products due to less frequent visits to these shopping outlets.



Enthusiasts and Idealists are also more likely to buy grain products weekly at grocery stores, supermarkets, or supercenters.



Both Enthusiasts and Idealists prioritize environmentally friendly choices and value local grains for the environmental benefits they offer. Enthusiasts and Idealists are more likely to:

Choose foods because of their environmental benefits

11% – Value Skeptics

28% – **Idealists**

26% – **Enthusiasts**

Use eco-friendly modes of transit (e.g. walking, cycling, public transit)

9% – Value Skeptics

20% – **Idealists**

16% – **Enthusiasts**

Use eco-friendly or sustainable products

16% – Value Skeptics

29% – **Idealists**

29% – **Enthusiasts**

Care whether their grain products are regeneratively grown

16% – Value Skeptics

28% – **Idealists**

40% – **Enthusiasts**

Care whether their grain products are organically grown

34% – Value Skeptics

65% – **Idealists**

68% – **Enthusiasts**

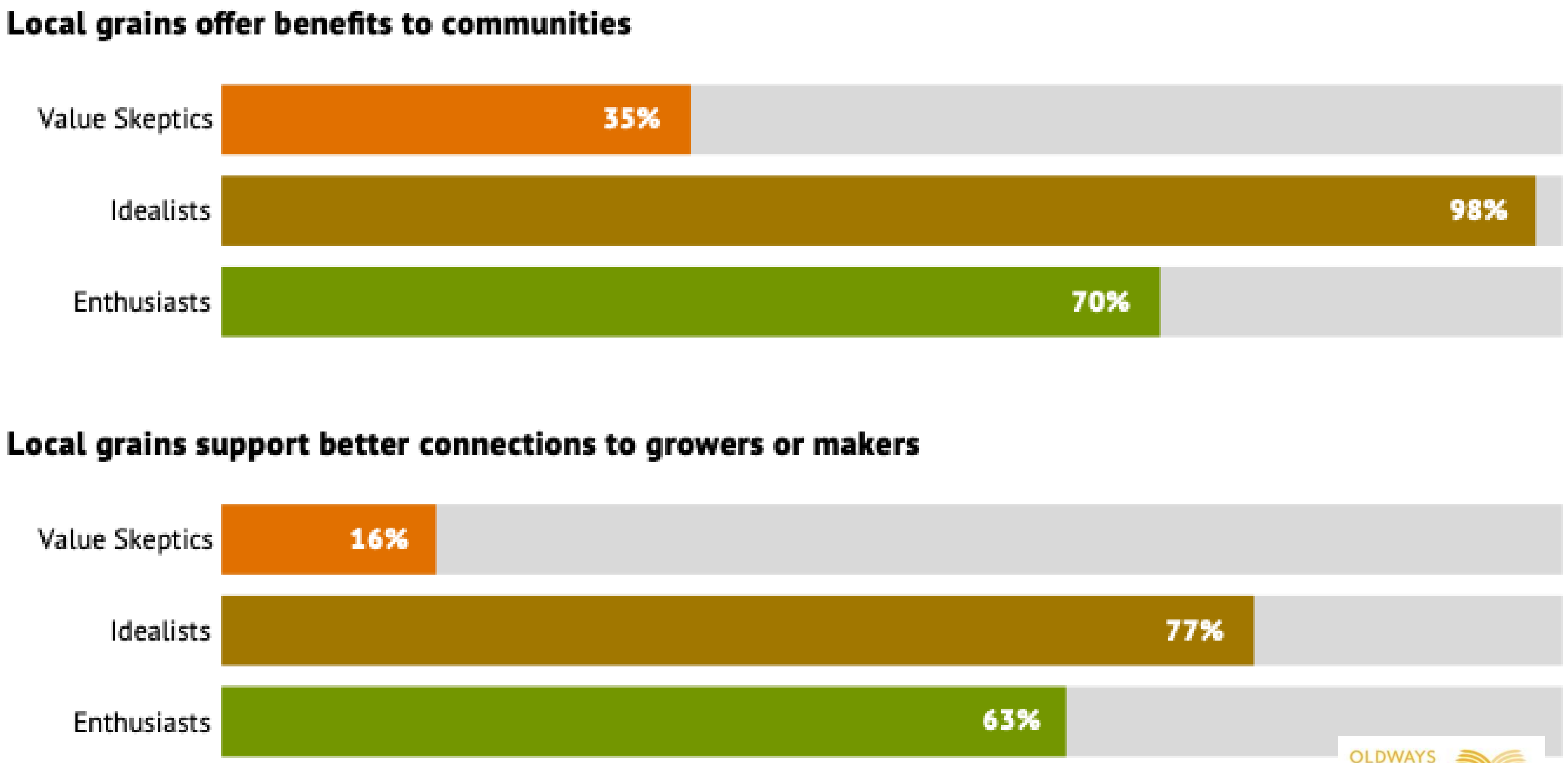
Care whether their grain products are locally grown

30% – Value Skeptics

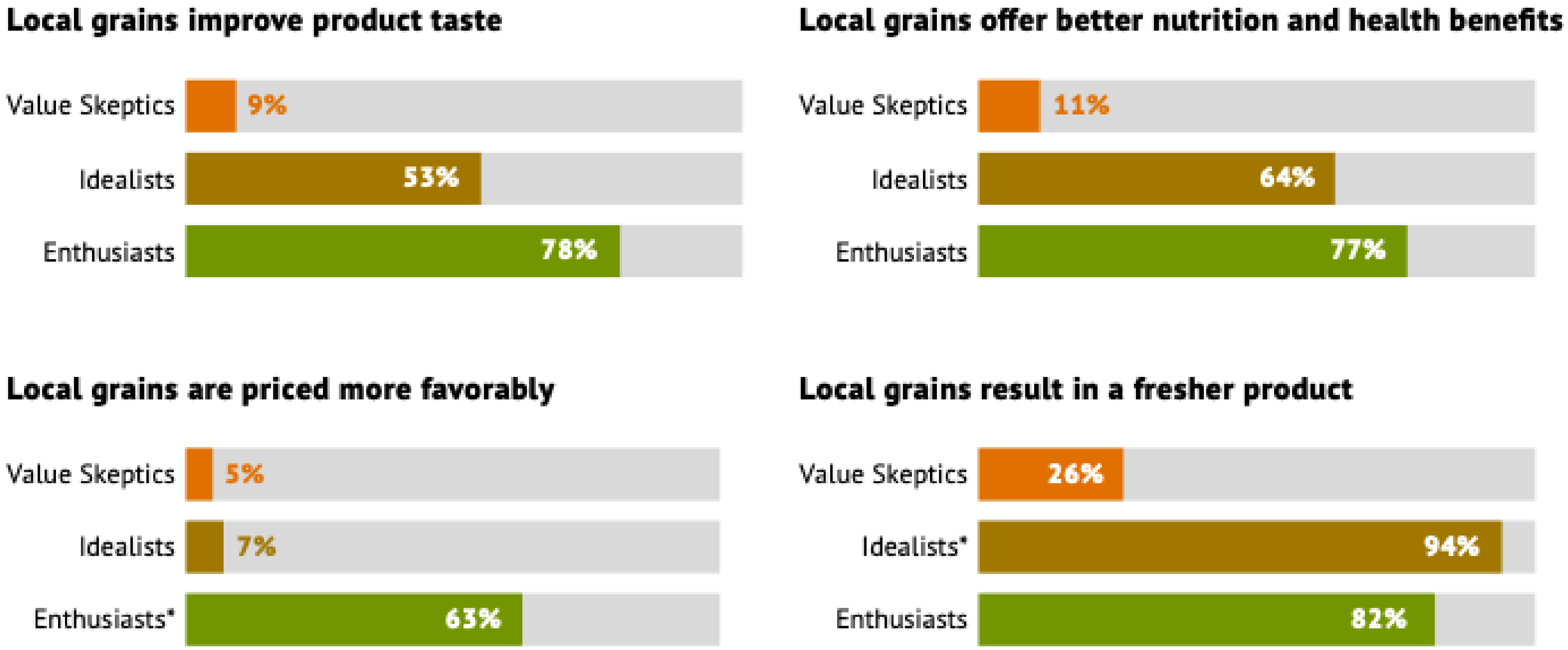
51% – **Idealists**

59% – **Enthusiasts**

Enthusiasts and Idealists also value local grains for the social benefits they provide. Enthusiasts and Idealists are more likely to believe that:



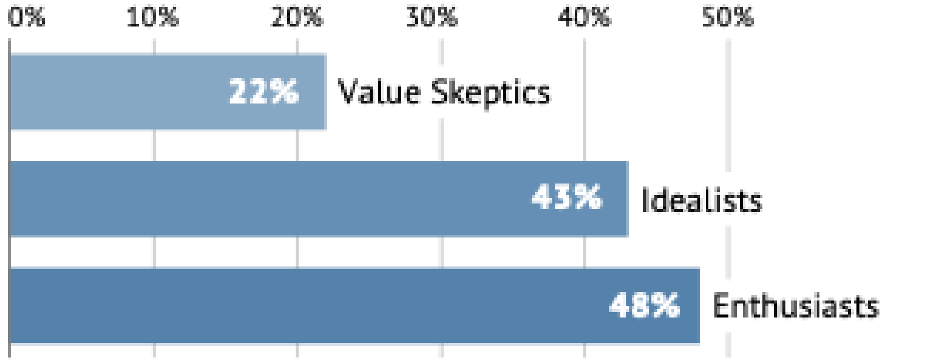
Enthusiasts and Idealists differ in their beliefs about whether local grains have practical or functional value. Enthusiasts are more likely to believe:



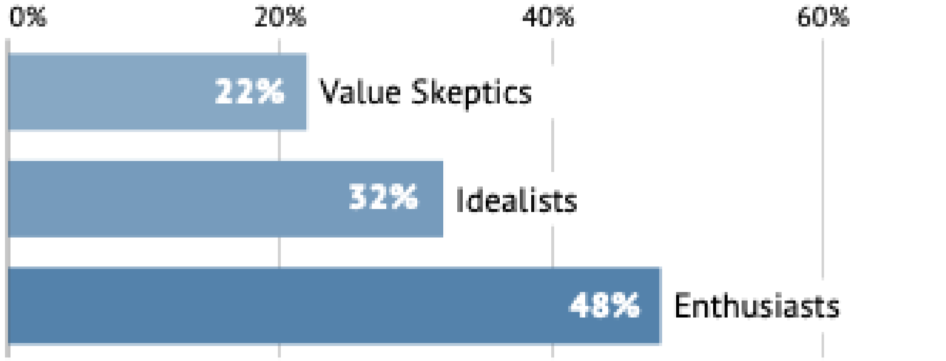
* We suspect Enthusiasts feel this way despite the higher cost of local grains because they feel local grains offer more benefits overall and are therefore worth the higher price.

Enthusiasts and Idealists are more interested in a variety of grain product offerings. They are more likely to seek out:

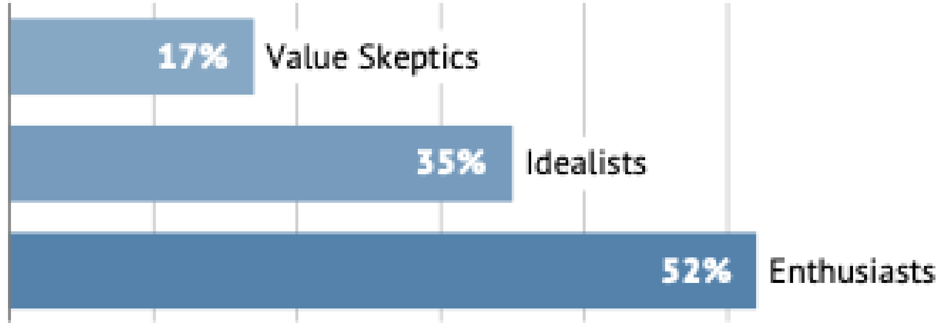
Ancient grain products (e.g. emmer, farro, einkorn, spelt)



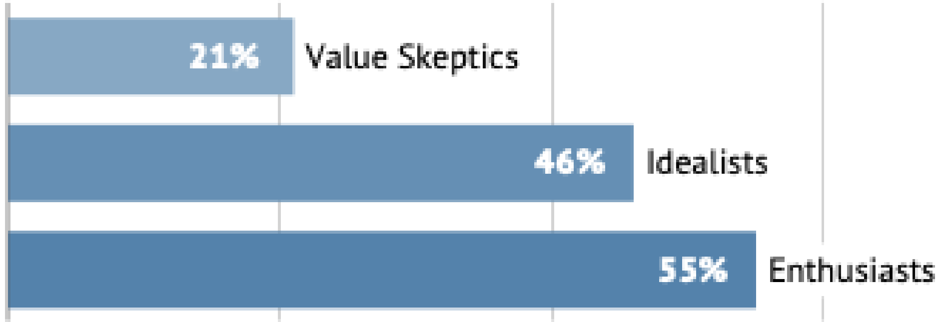
Gluten-free grain products (e.g. buckwheat, millet, sorghum)



Heritage or land-race wheat products

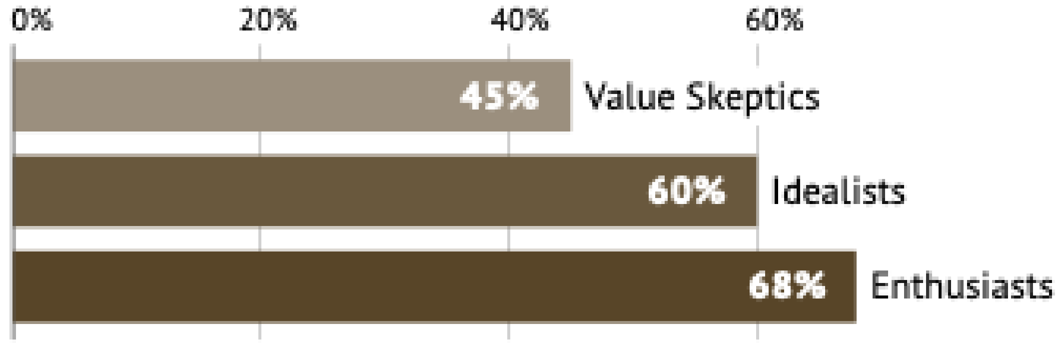


Sprouted grain products

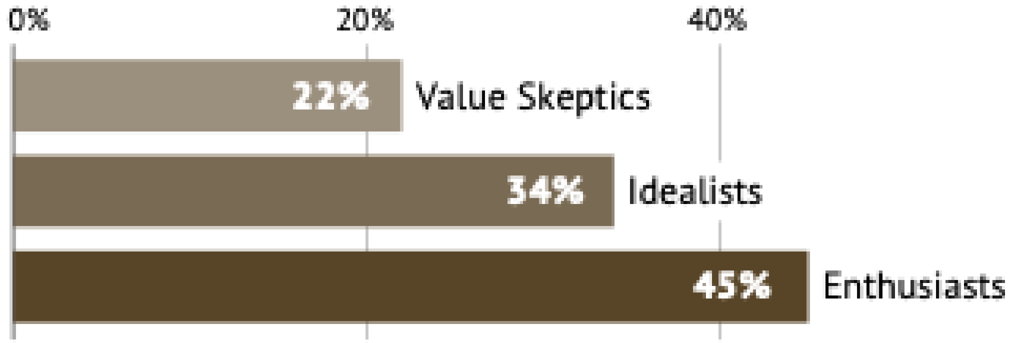


Enthusiasts are the group most passionate about whole grains, and most savvy at identifying whole grain products. They are more likely to:

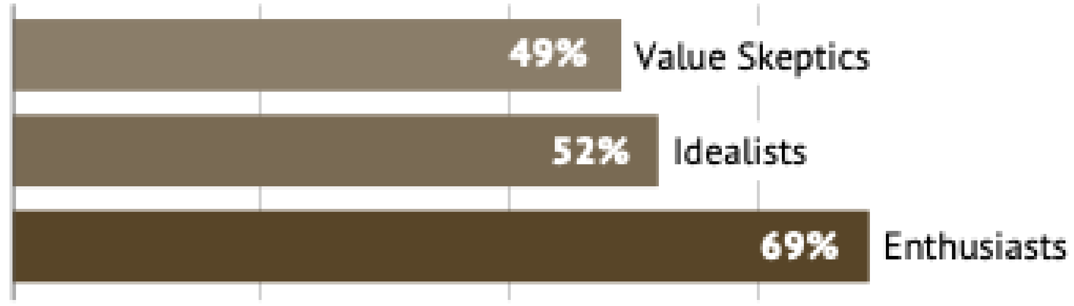
Say they choose whole grain foods at least half the time



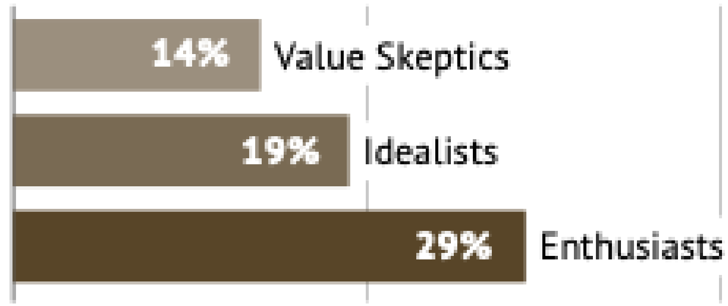
Say they should eat a lot more whole grains than they already do



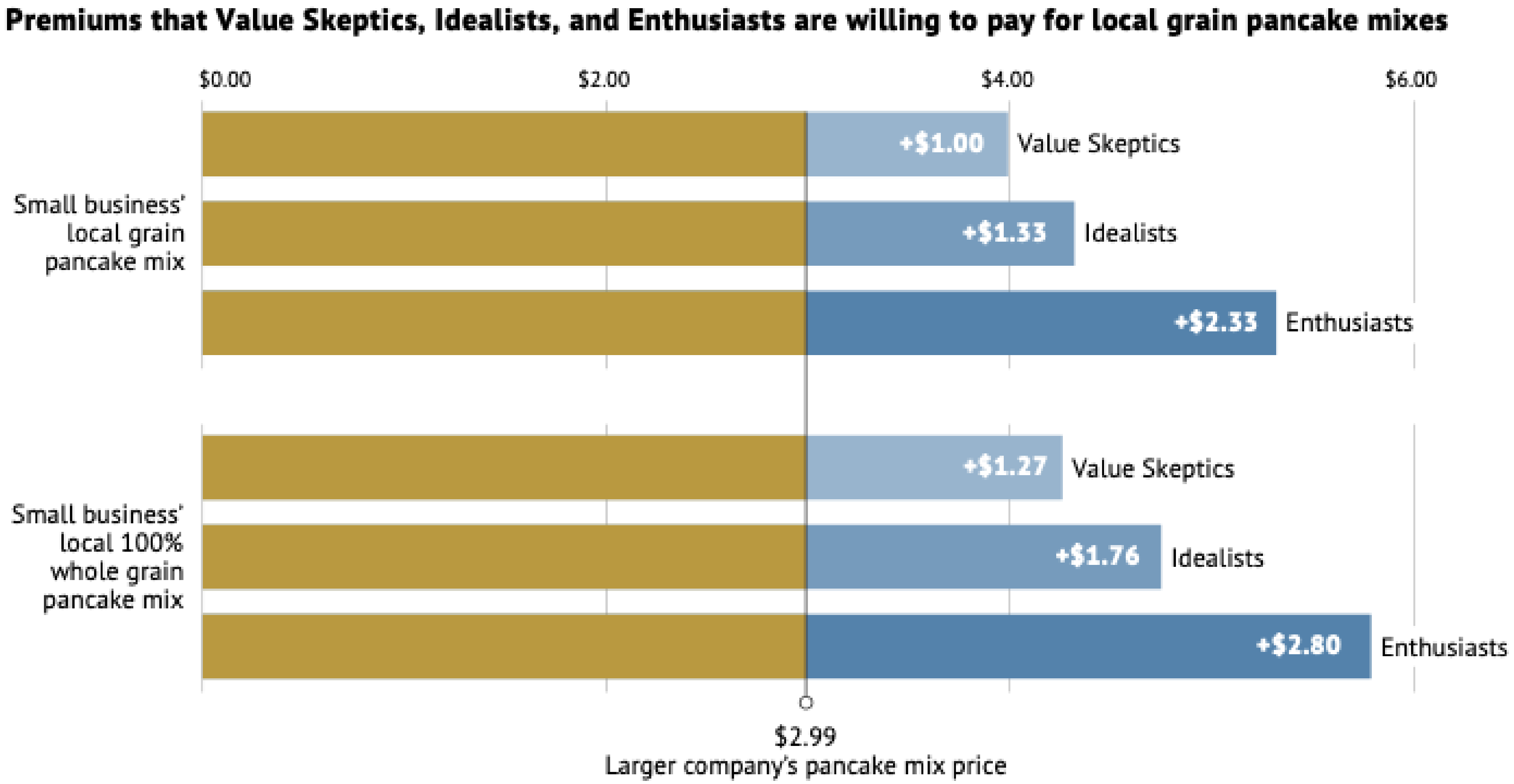
Look for the Whole Grain Stamp when choosing products to buy



Say it is very easy to determine if a food contains whole grains



Enthusiasts are less likely to identify the price of a product as a major factor in their purchasing decision. Perhaps as a result, they are also willing to pay a higher price premium for local grain and whole grain products on average.



Summary

Better understanding of how U.S. consumers interact with **whole and local grain products**

Photo credit: Jae Arnold

Key Takeaways:

- Whole-grains
  - Public, private partnerships leverage whole grain taste opportunities, cost strategies, familiarization, education, and labeling to increase whole grain consumer acceptance
- Local grains and Alternative Grain Networks
  - Generate quantitative data on consumer acceptance of U.S. alternative grain networks
  - Increase awareness about local grains
  - Leverage taste opportunities, packaging & labeling, and information on a product's story to increase local grain consumer acceptance
  - Develop tailored strategies to index local grain idealists and value skeptics towards local grains
  - Find innovative ways to get consumers where local grains are (coops and farmer's markets) or local grains where consumers are (i.e. supermarkets)

Thank you!

OLDWAYS WHOLE GRAINS COUNCIL

ARTISAN GRAIN COLLABORATIVE

Photo credit: Meadowlark Farm & Mill

Questions?

Photo credit: Teffola grain