



Consumer snapshot: **Precision-fermented dairy in the U.S.**

Overview of consumer needs, perceptions,
and demand, 2024



Photo courtesy of Sarit Goffen for Imagindairy

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Executive summary

Precision fermentation is new to most Americans, but many are willing to try products or ingredients made this way, enticed by the promise of the same proteins without the animal.

All data from Poll by Morning Consult on behalf of GFI: n=2,214 U.S. adults, May 2024, unless otherwise specified

How many Americans have heard of precision-fermented proteins?

While precision fermentation is an established technology, its use in consumer proteins is new and unfamiliar to most Americans.

Just 13% of Americans claim to have seen, read, or heard about precision-fermented dairy. And only

25% say they are “very” or “somewhat” familiar when asked about “precision-fermented... also sometimes called ‘animal-free’” dairy, one of the more common terms used by producers of precision-fermented dairy as of 2024.

Multiple other studies have found around ⅓ of Americans are familiar with the concept of “fermented” or “fermentation-based” proteins more broadly (Fig 1).

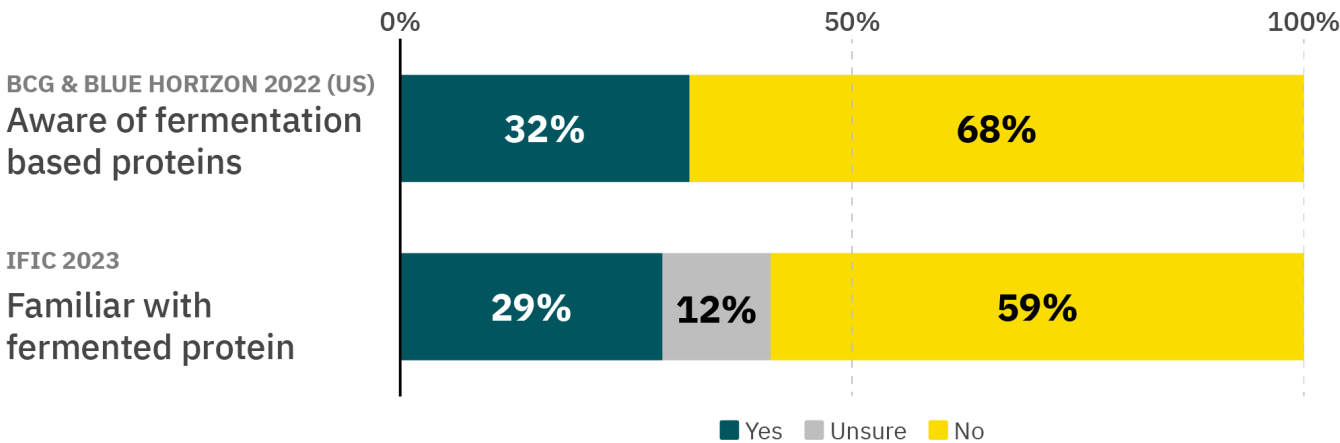


Figure 1: BCG & Blue Horizon, The Untapped Climate Opportunity in Alternative Proteins, 2022

IFIC: Innovations in Alternative Proteins: Understanding the Viewpoints and Purchasing Behaviors of U.S. Meat Eaters, 2023

What name for this technology do Americans find most appealing?

Research by GFI and Accenture on consumers in the United States and Europe in 2023 found that consumers in these regions preferred names that emphasized that precision-fermented dairy would be made without animals (e.g., animal-free), followed by names that mentioned “brewing,” followed by ones that referenced “fermentation” (Fig 2).

Consumers felt these descriptions were more appealing and were more likely to agree they could see themselves using them socially. One of the key findings from this research was that, today, there is no single name that will best clarify for consumers what these products are or how they’re made. It’s likely that continued experimentation in the marketplace around terminology and explanations is needed.

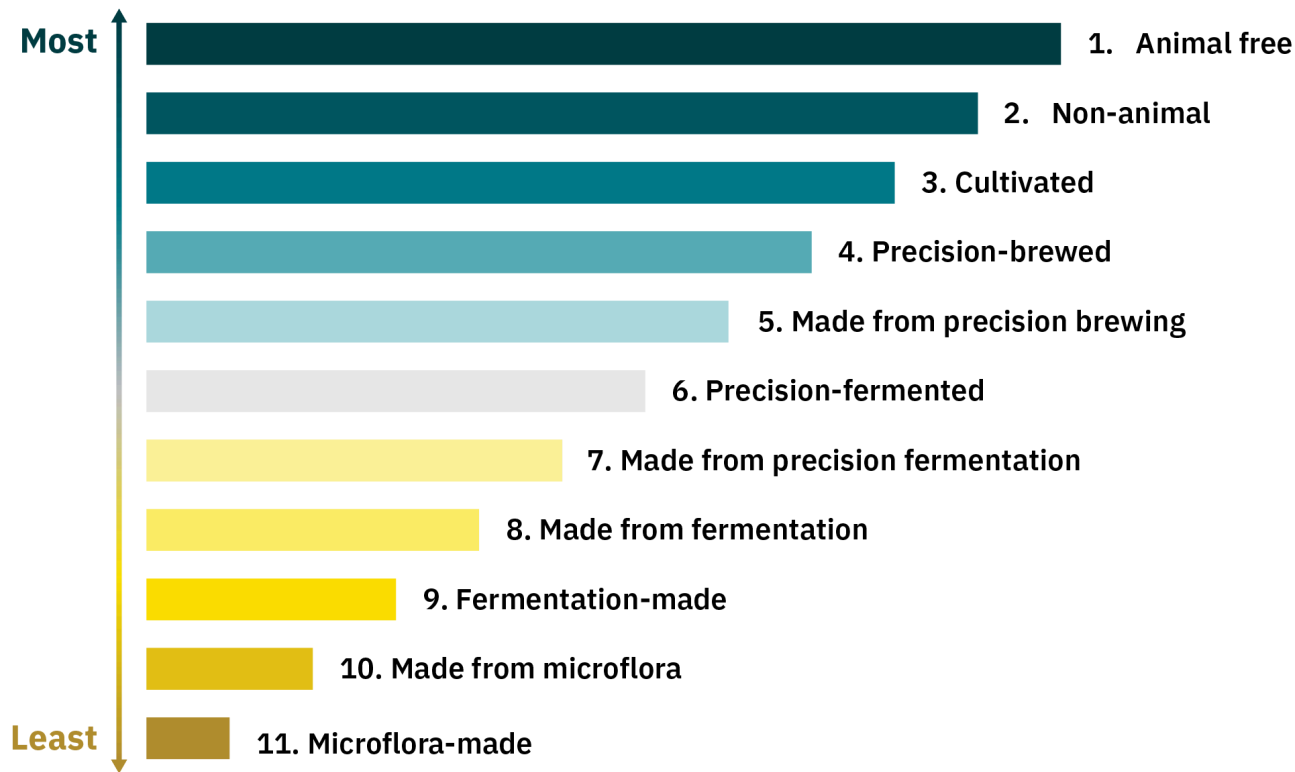


Figure 2. Ranking of names for precision-fermented dairy by preference from most (top) to least (bottom), after reading an explanation.

Consumers in the U.S. preferred names that emphasized that precision-fermented dairy would be made without animals, then names that mentioned “brewing,” then ones that referenced “fermentation”

Survey by Accenture and GFI of n=998 U.S. consumers, 2023

How appealing do Americans find the concept of precision-fermented dairy?

After precision-fermented dairy is explained to Americans in terms of what it is and how it’s made:

- 39% find it “very” or “somewhat” appealing.
- 29% would be “extremely” or “very” likely to try it if offered a free sample.
- 21% would be “extremely” or “very” likely to purchase.

Other studies have found even higher likelihood to try precision-fermented dairy, as high as 67% (Fig 3).

Who is most likely to try precision-fermented dairy?

Younger consumers, and especially millennials, are more likely to be “extremely” or “very” likely to try precision-fermented dairy:

- **Gen Z:** 32%
- **Millennials:** 36%
- **Gen X:** 27%
- **Baby Boomers:** 21%

Male consumers are slightly more likely to be “extremely” or “very” likely to try precision-fermented dairy than women consumers: 33% vs. 25%, respectively.

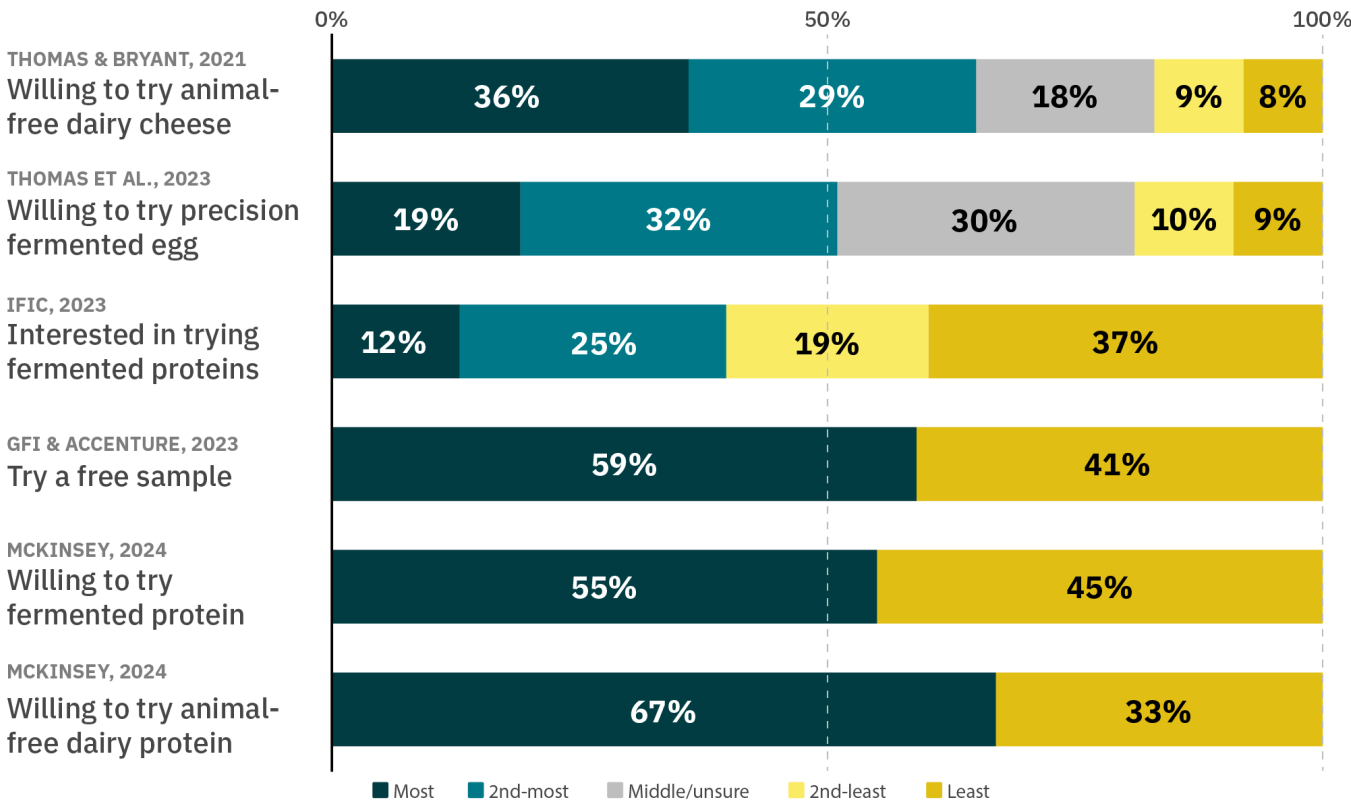


Figure 3: Willingness to try precision-fermented dairy from non-GFI studies.

Studies that do not ask about moderate levels of willingness tend to see higher willingness, suggesting many consumers may lean toward willingness

Thomas & Bryant: Don’t Have a Cow Man: Consumer Acceptance of Animal-Free Dairy Products in Five Countries, 2021
Thomas et al: Not getting laid: consumer acceptance of precision fermentation made egg, 2023, U.S.
IFIC: Innovations in Alternative Proteins: Understanding the Viewpoints and Purchasing Behaviors of U.S. Meat Eaters, 2023
McKinsey & Co: Consumer appetite for sustainably made ingredients, 2024.

What do Americans expect from precision-fermented dairy?

While many Americans are not familiar with precision-fermented dairy, they are quick to associate it with the benefits of dairy after the technology is explained.

Americans are more likely to believe precision-fermented dairy will be equal to or better than conventional dairy in terms of:

- Being good for the environment (27% believe better, equal, 24% equal)
- Being low cholesterol (21% believe better, 25% equal)
- Being low saturated fat (21% believe better, 25% equal)
- Being safe to eat (13% believe better, 34% equal)
- Being tasty (10% believe better, 28% equal)

...than to believe it will be worse than conventional dairy.

However, Americans are more likely to believe that conventional dairy is minimally processed and natural. This suggests overall that Americans would readily associate benefits of conventional proteins with precision-fermented ones, at least when they are explained in terms of their similarity.

How we explained precision fermentation to consumers in this research

As you may know, fermentation is used to make foods like beer, bread, and yogurt. We can also use a type of fermentation to convert sugars into dairy or egg proteins like whey or casein. These proteins are identical to what we'd find in milk or eggs, but made without animals and can be used to make animal-free dairy products like ice cream, milk, protein powder, and more. Some examples include brands like Modern Kitchen and Nurishh.

What would motivate Americans to try and buy precision-fermented dairy?

Research conducted by GFI and Accenture in 2023 found that consumers rated precision fermented products as more appealing after reading a variety of descriptors of them, including ones their similarity to conventional dairy, being made without animals, descriptions of how they are made, and others. Emphasizing the sameness of the proteins it produces and how it is made without using animals had the biggest positive impact on appeal (Fig 4).



Photo credit: Tomorrow Farms

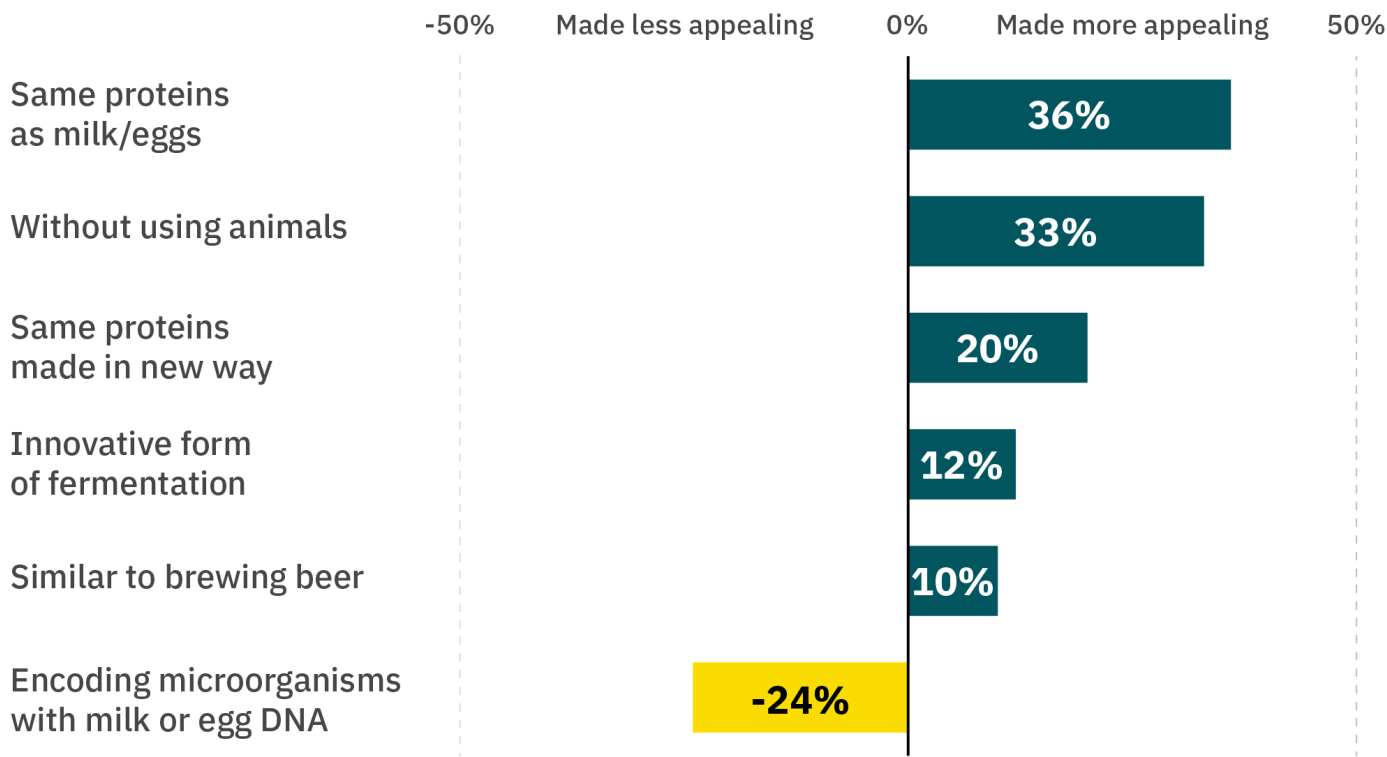


Figure 4: Rating of explanation components as contributing to appeal

Which of the following names can you imagine using personally, when discussing these products with friends or family?

Survey by Accenture and GFI of n=998 U.S. consumers, 2023

In this same survey, health was Americans' top-cited reason for interest in trying precision-fermented dairy, and significant numbers cited animal welfare, taste, and environmental reasons, as well as mere curiosity or novelty. More research will be needed to determine which of these benefits different types of consumers most associate with precision-fermented proteins, and which of them they are most willing to pay for, as more products come to market (Fig 5).

Building familiarity and articulating benefits will also be necessary to persuade the significant number of Americans who would be unlikely to try precision-fermented dairy today. While 31% of them cite concerns over whether it's natural, a larger number just expect to prefer conventional dairy, suggesting it will be important that precision-fermented dairy offers a compelling and unique value proposition to win skeptical consumers (Fig 6)

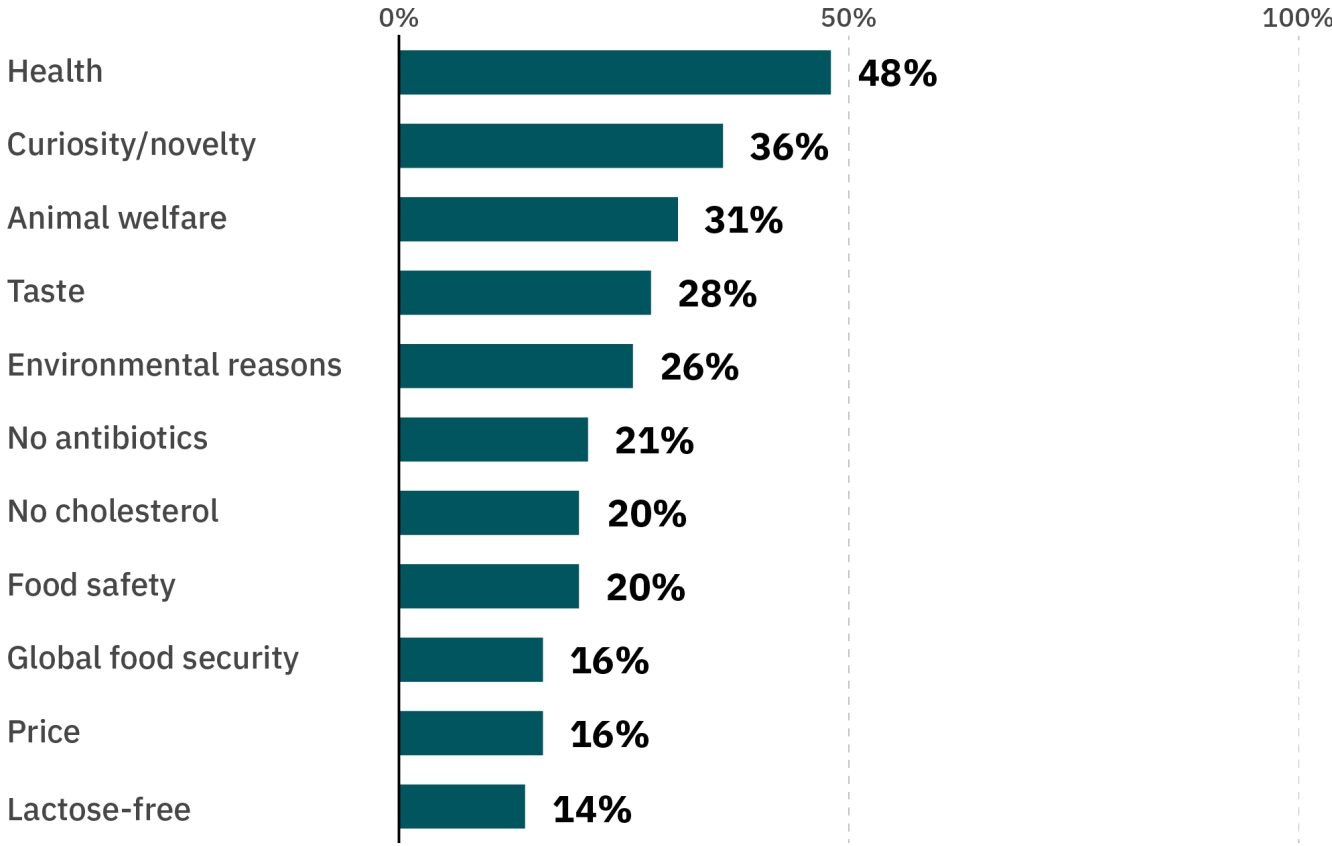


Figure 5: Reasons interested in trying precision-fermented dairy

Which of the following names can you imagine using personally, when discussing these products with friends or family?

Survey by Accenture and GFI of n=998 U.S. consumers, 2023

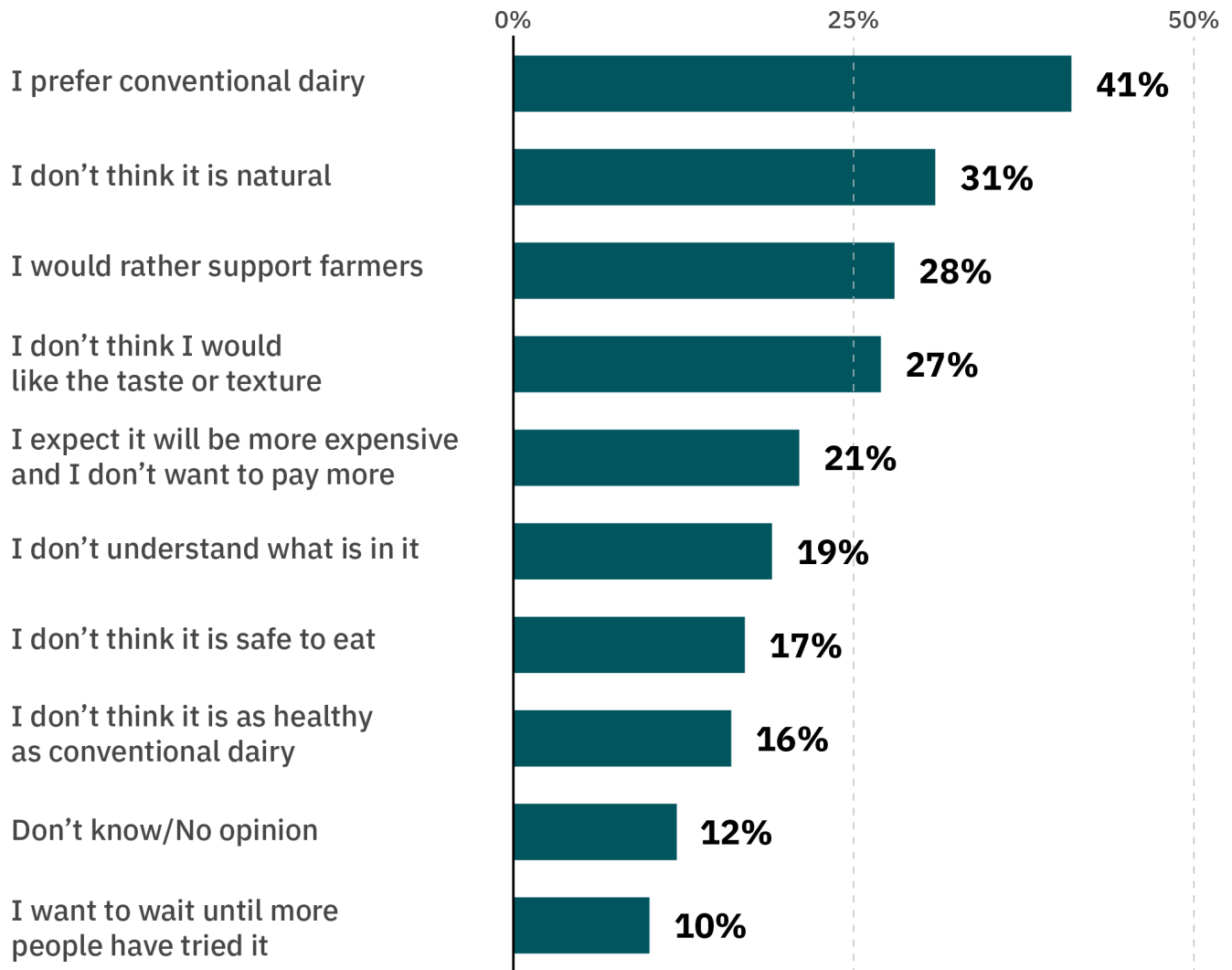


Figure 6: Reasons would not try or buy precision-fermented dairy, among those who are not so/not at all likely to try and/or buy

Consumers who wouldn't try/buy precision-fermented dairy are most likely to say they wouldn't because they just prefer conventional dairy or don't think precision-fermented dairy is natural; but under half agree with these statements, and their reasons are diverse overall

What's next?

These consumer metrics and perceptions suggest that:

- The concept of precision-fermented dairy is still new to most Americans, and investment will be required to build familiarity.
- Consumer brands bringing precision-fermented proteins to market should consider additional research on nomenclature and benefits to determine how to name, position, and market these products.
- Many consumers believe precision-fermented dairy will be safe and anticipate that it will offer environmental and nutritional benefits, but will need to be convinced of the taste.

The Good Food Institute surveys thousands of diverse Americans annually to understand their outlook on alternative proteins and will continue to make the results of this research available to the public as the category evolves.



About GFI

The Good Food Institute is a nonprofit think tank working to make the global food system better for the planet, people, and animals. Alongside scientists, businesses, and policymakers, GFI's teams focus on making plant-based and cultivated meat delicious, affordable, and accessible. Powered by philanthropy, GFI is an international network of organizations advancing alternative proteins as an essential solution needed to meet the world's climate, global health, food security, and biodiversity goals. All of GFI's open-access insights and data are made possible by gifts and grants from our global community of donors. If you are interested in learning more about giving to GFI, please visit [here](#) or contact philanthropy@gfi.org.

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