



POUR MORE INTO THE PINT

Improve mouthfeel, taste and head retention in low-carb, low-calorie, low-ABV and non-alcoholic beer





20%

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drinkers seek low
alcohol content

14%

express interest in
alcohol-free craft
beer innovations

THE EVOLVING BREW: LOW CARB, LOW CALORIE, LOW ABV AND NON ALCOHOLIC

A growing number of consumers are changing their drinking habits, trading traditional brews for non-alcoholic, low-ABV, low-carb and low-calorie beers. Low-ABV and non-alcoholic beers are seeing growth, with nearly 20% of U.S. beer drinkers seeking low alcohol content, and 14% expressing interest in alcohol-free craft beer innovations, reflecting rising demand for moderation and flexible drinking options.¹

This move towards mindful moderation beer is largely driven by Gen Z and millennial consumers who are changing the dynamics of social drinking. For these drinkers, the “sober-curious” lifestyle is centered around flexibility and personalization.¹

71% of U.S. drinkers aged 22-34 say they practice or show interest in a sober-curious lifestyle, citing health, saving money and mental well-being as key motivators.¹ They want options that fit specific moods, health goals or social occasions without sacrificing the experience of a craft beer. Whether it's alcohol free, low ABV (2-3.5% alcohol), low carb or low calorie, these alternatives let consumers personalize their drinking experience.



POUR MORE INTO THE PINT

Fibersol[®]



THE BREWING BATTLE FOR MOUTHFEEL AND FOAM

In low-carb, low-calorie, low-ABV and non-alcoholic beers, the reduction of foundational elements creates a unique set of formulation challenges for brewers. When alcohol and residual sugars are reduced to meet specific caloric, carb or alcohol targets, beer is often left with a thin mouthfeel, lack of flavor depth, lower head volume and foam instability, resulting in a disappointing drinking experience.

Brewers often rely on lactose or traditional maltodextrin for body, mouthfeel and head retention, but for low-carb, low-calorie, low-ABV and non-alcoholic beer, these can be counter-productive ingredients in the formulations. They add increased empty calories and carbs and may present digestive concerns.





DIGESTION-RESISTANT MALTODEXTRIN, A SMOOTH SOLUTION

To solve the body challenge without compromising quality and caloric targets, digestion-resistant maltodextrin offers brewers the ability to maintain the sensory attributes of a traditional pint. Unlike traditional maltodextrin which adds calories, digestion-resistant maltodextrin is a dietary fiber that provides the physical benefits of simple carbs and starch with less caloric load.

When used in low-carb, low-calorie, low-ABV and non-alcoholic beer, digestion-resistant maltodextrin adds back body and mouthfeel, increases volume of head and improves foam stability. Importantly, it does this without impacting color or flavor, ensuring the quality and integrity of beer.



POUR MORE INTO THE PINT

TECHNICAL PERFORMANCE IN BREWING SYSTEMS: MOUTHFEEL

In low-carb, low-ABV and non-alcoholic beer, dilution and filtration are used to lower carb and alcohol content, but this can result in thin mouthfeel and a weak flavor and aroma. By using digestion-resistant maltodextrin at any time before fermentation, brewers can add these important sensory characteristics back.



In low-carb and zero-sugar beer: During fermentation, most of the available sugars (glucose, disaccharides and trisaccharides) are consumed by yeast, leaving the finished product thin and watery. Because digestion-resistant maltodextrin is not fermented by yeast and resists enzymatic hydrolysis, it remains intact and provides mouthfeel and improved flavor, aroma and foam stability.

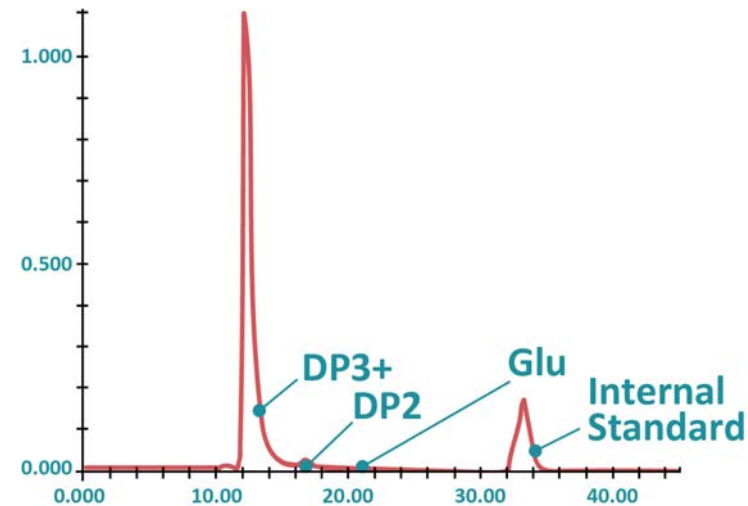


In low-ABV and non-alcoholic beer: Reducing or removing alcohol results in a thin, watery mouthfeel as ethanol contributes to body and viscosity. Using traditional fillers to add back mouthfeel and body can alter flavor profiles and add unwanted calories. Digestion-resistant maltodextrin restores the viscosity, improving the overall drinking experience with less caloric and carbohydrate impact.

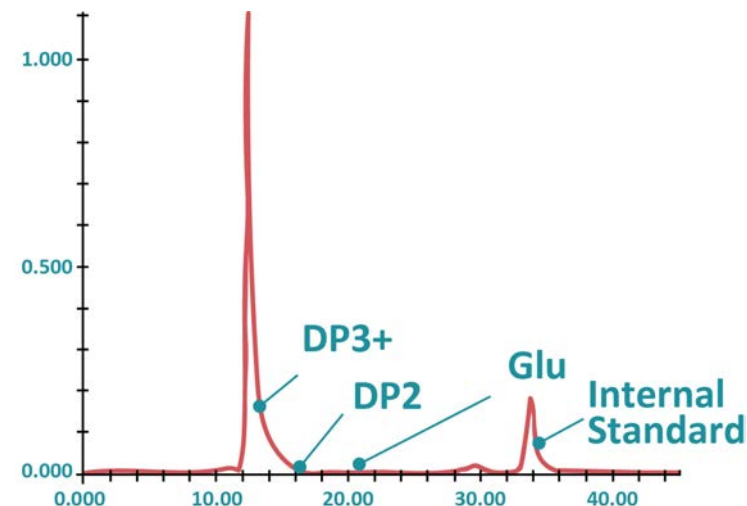


STABILITY OF DIGESTION-RESISTANT MALTODEXTRIN (FS-2) UNDER FERMENTATION PROCESS

FS-2 Before Fermentation



FS-2 After Fermentation



FERMENTATION TEST CONDITION:

- Prepare 10% w/w solution of FS-2 and add 5% w/w of yeast (half amount solid to FS-2)
- Keep at 30°C for 24 hours for fermentation

RESULT

- Few part of FS-2 (only glucose and disaccharide) was utilized by yeast
- Stable to hydrolysis by enzymes such as α -amylase, β -amylase and glucoamylase
- Most parts of FS-2 remained as dietary fiber (~90%)



Test by
pouring two
types of 50ml
low-carb beer

Foam Stabilization With Digestion-Resistant Maltodextrin

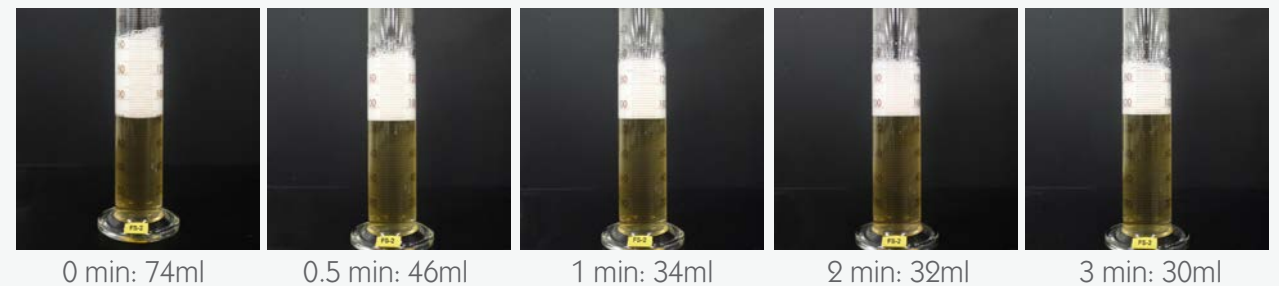
TECHNICAL PERFORMANCE IN BREWING SYSTEMS: FOAM STABILITY

Viscosity plays a vital role in promoting foam stability. However, in low-carb, low-ABV and non-alcoholic beer, viscosity is lost due to the absence of ethanol and a reduction in sugars. Digestion-resistant maltodextrin adds viscosity back, increasing beer head, improving foam stability and creating a longer-lasting foam. These changes contribute to a richer, more authentic drinking experience.

CONTROL
without FS-2



PROTOTYPE
with 1.5% FS-2



**AFTER 3 MINUTES, THE FOAM STILL STANDS
WITH THE ADDITION OF DIGESTION-RESISTANT MALTODEXTRIN.**

FS-2 coats
the bubbles

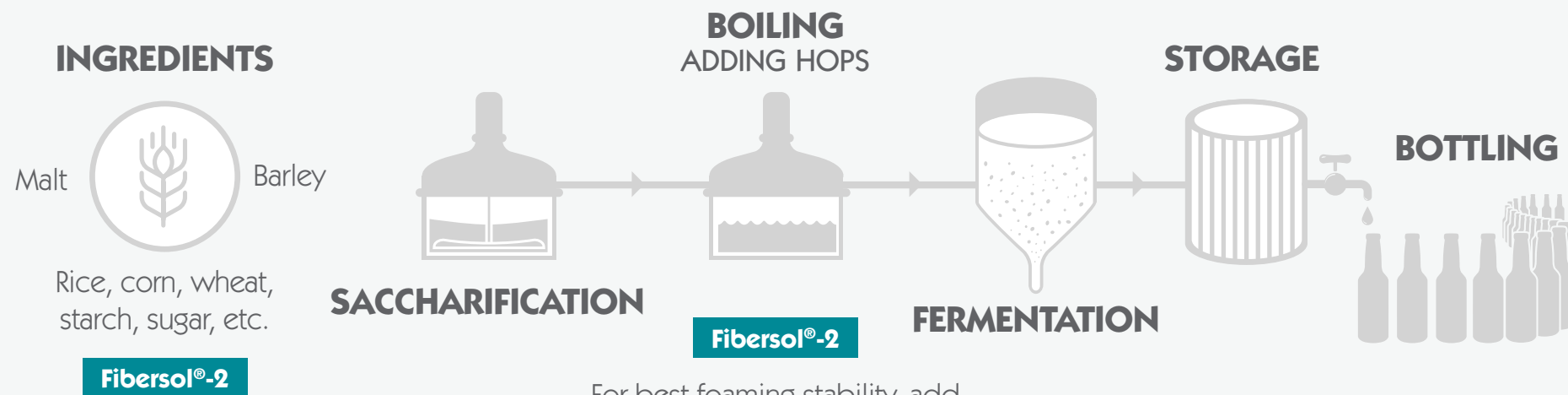
Adding FS-2
helps to create
more foam
which lasts
longer

EASY BREWING WITH DIGESTION- RESISTANT MALTODEXTRIN

Digestion-resistant maltodextrin is unique due to its exceptional versatility, and it can be easily integrated into an existing brewing system with minimal formulation and process adjustments.

When used in low-carb, low-calorie, low-ABV and non-alcoholic beer, digestion-resistant maltodextrin offers:

- **Superior solubility:** It disperses easily into liquid and remains clear and colorless in solution.
- **Structural integrity:** It is not fermented by yeast and resists hydrolysis by enzymes (such as alpha-, beta- and glucoamylase), ensuring the added body remains in the beer rather than being broken down during fermentation.
- **Process stability:** It retains fiber content under acid, temperature or shear, even during extreme processing conditions.
- **Freeze/thaw stability:** It has a lower freezing point depression than that of sugar, making it easy to formulate a product with greater frozen stability and less ice crystal formation.



A close-up photograph of a hand holding a clear glass beer bottle, tilted to pour golden beer into a light-colored cup. The background is blurred, showing what appears to be a bar or restaurant setting with other patrons and lights.

NUTRITIONAL CONSIDERATIONS AND CALORIE IMPACT

A common misconception in the industry is that all traditional maltodextrins carry the same caloric load. Traditional maltodextrin is a carbohydrate that the body digests fully, but digestion-resistant maltodextrin is a dietary fiber that resists digestion. It contributes fewer calories to the final count while still providing the mouthfeel, flavor and foam stability of a quality beer. This allows brewers to hit caloric and carb goals without compromising quality.

THE HOLISTIC BREW: BEYOND ALCOHOL FREE

In addition to mouthfeel and foam stability, digestion-resistant maltodextrin opens the door for potential better-for-you positioning in non-alcoholic beer. Because it is a dietary fiber, it creates the opportunity for brewers to move beyond alcohol free and into the more wellness-forward functional beverage market.

While positioning is subject to Alcohol and Tobacco Tax and Trade Bureau (TTB) regulatory guidance and confirmation, these opportunities present a forward-looking future of how non-alcoholic beer may support the wellness-conscious consumer.

In the non-alcoholic beer sector, digestion-resistant maltodextrin could potentially be used to position products for:



Digestive health: Positioning non-alcoholic beer as a source of fiber that supports a healthy gut



Satiety-forward concepts: Exploring the potential of non-alcoholic beer that promotes satiety



FIBERSOL[®], THE DIGESTION-RESISTANT MALTODEXTRIN BEHIND THE BREW

Fibersol[®] is a digestion-resistant maltodextrin that offers beer brewers a lower calorie solution that delivers the desired taste, mouthfeel and head retention in low-calorie, low-carb, low-ABV and non-alcoholic beers. It can be added at various points in the brewing process and does not require additional equipment or process changes.

The Fibersol[®] team has long-standing experience working in beverages and a strong understanding of brewing performance. In fact, Fibersol[®] digestion-resistant maltodextrin has been successfully used in beer applications to add body and mouthfeel to low-carb beer.

Enhance the drinking experience of your next low-calorie, low-carb, low-ABV or non-alcoholic beer. Contact us today and add Fibersol[®] to your next brew.

¹ Mintel. Beer—US—2025



DISCOVER MORE ABOUT FIBERSOL[®] AT FIBERSOL.COM

Fibersol[®] is supported by the joint venture between Archer Daniels Midland Company, Matsutani Chemical Industry Co., Ltd., and Matsutani America, Inc., a global selling and marketing partnership combining strong technical and scientific expertise with a vast global production and transportation network, for a high-quality food ingredient backed by attentive, reliable service and supply.

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