

# The Best Thing Since Sliced Bread

Consumers could not tell the difference between bread prepared with **ENSEMBLE™** and PHO-prepared bread.

## Consumers' taste for bread is ingrained.

In all of its different forms, bread is one of the most widely consumed foods in the world. It's been a staple of the human diet for centuries and remains so for many consumers today.

For bread manufacturers, the U.S. Food and Drug Administration's (FDA) mandate to ban partially hydrogenated oils (PHOs) presents a steep challenge. Not only do these producers have to find a suitable non-PHO alternative that matches the functionality of PHO emulsifiers, but they also must ensure that their reformulated products maintain the prototypical bread taste that consumers know well.

This is not an easy task given the important role emulsifiers play in the bread-making process. From providing anti-staling properties to producing a softer, more desirable crumb to improving loaf volume, symmetry, dough handling and slicing characteristics, choosing the right emulsifier is crucial to producing a quality loaf.

Corbion recently conducted a third-party consumer study to analyze the performance of its ENSEMBLE™ line of non-PHO emulsifiers in bread. Consumers were asked to taste and compare samples of white and 100% whole-wheat, sliced bread prepared with ENSEMBLE™ emulsifiers with bread samples prepared with traditional PHO-based emulsifiers. Product samples were prepared by AIB International, an independent research facility, and aged for seven days prior to consumer testing.

## The result:

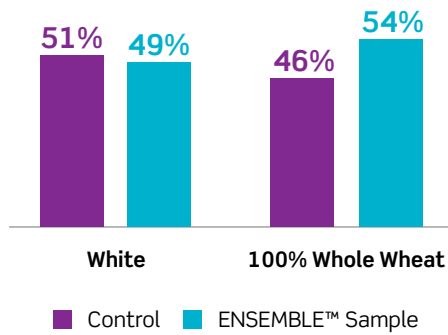
Consumers couldn't tell the difference between samples prepared with **ENSEMBLE™** and bread prepared with traditional PHOs. Some consumers even preferred the **ENSEMBLE™** samples.



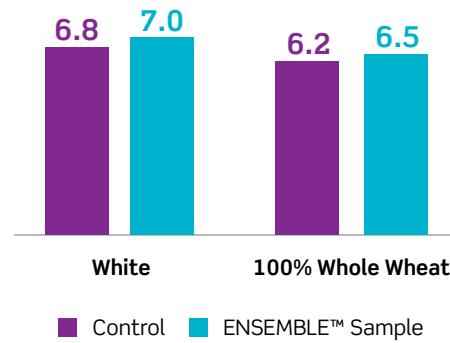
# By the Slice

For both the white and 100% whole-wheat, sliced bread, no significant differences in overall preference or any other diagnostics were found between the control and the sample prepared with ENSEMBLE™. In fact, the 100% whole-wheat sliced bread had overall preference directionally in favor of the ENSEMBLE™ non-PHO sample.

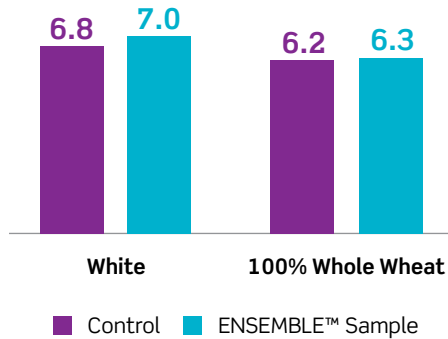
## Overall Preference



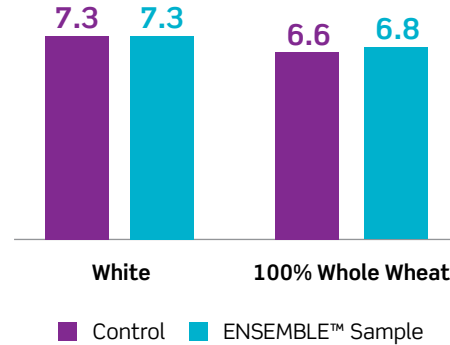
## Overall Liking\*



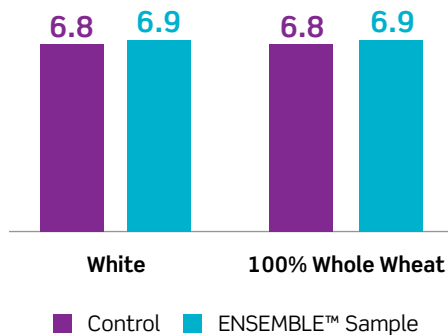
## Overall Taste\*



## Overall Texture\*



## Overall Aroma\*



\*Based on a 9-point scale, with 9 representing the highest preference ranking.

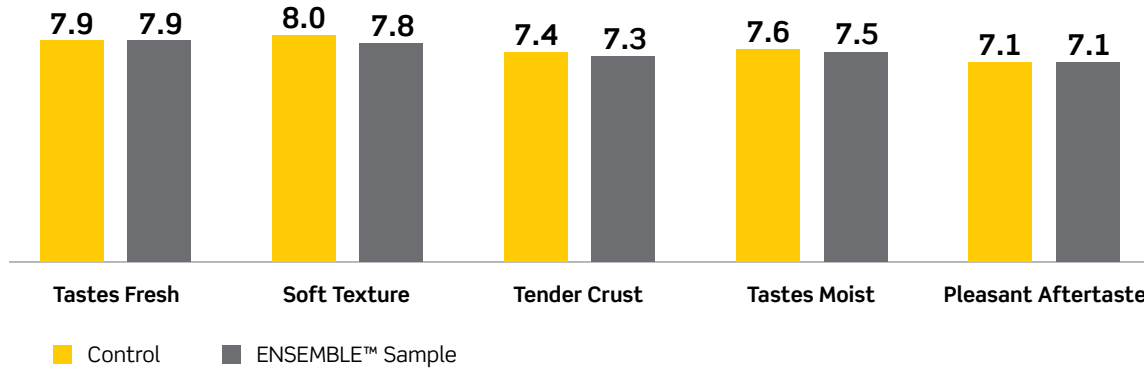
### Population of test:

N=78 • 21-64 years old • 75% Caucasian, 25% other • Purchase and consume white and 100% whole wheat sliced bread • Commercial bread aisle and in-store bakery bread shoppers

# Consumer Preference Is Fully Baked

When asked to rank the samples on more specific attributes, participant responses still showed no statistical difference in preference between the control and the sample prepared with ENSEMBLE™ in both white and 100% whole-wheat, sliced bread.

## White Bread\*



\*Based on a 9-point scale, with 9 representing the highest preference ranking.

### Population of test:

N=78 • 21-64 years old • 75% Caucasian, 25% other • Purchase and consume white and 100% whole wheat sliced bread • Commercial bread aisle and in-store bakery bread shoppers

## Consumer Comments

“Taste is nice and rich. Nice density; good flavor. Almost homemade.”

“Very soft and moist. Mild flavor. Nice texture.”

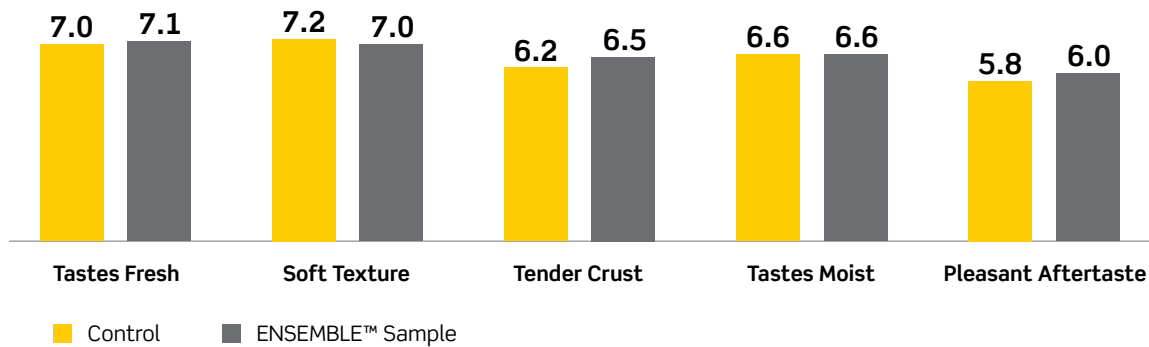
“Fluffy and moist, soft and squishy. Very white appearance. Crust is soft. Not much of an aftertaste.”

“I like that it was fluffy bread. It felt like it would fill me up just eating a slice of it.”

“This sample was extremely soft and tasted very moist. The crust could almost melt in your mouth. My sons hate crust, though this sample makes me believe they would eat it. It is delicious.”

“I love how soft the bread is; when I push on it, it bounces back like it’s nice and fresh. The consistency is good, too; very light and soft.”

## 100% Whole-Wheat Bread\*



\*Based on a 9-point scale, with 9 representing the highest preference ranking.

### Population of test:

N=78 • 21-64 years old • 75% Caucasian, 25% other • Purchase and consume white and 100% whole wheat sliced bread • Commercial bread aisle and in-store bakery bread shoppers

### Consumer Comments

“The taste was fantastic – flavorful and moist. It had a great aftertaste.”

“ Appearance was nice with a dark crust, aroma was pleasant, and texture was firm and moist, which I like.”

“ Soft and fresh. The crust was a mild nutty flavor; easy to chew with no residue stuck on my teeth. Smelled mild nutty grain odor, slightly sweet, but not overpowering.”

“ It is very soft and has a nice, strong wheat flavor without being grainy. The inside part of the bread is soft and has the perfect texture for my liking. The size of the bread is also perfect for the kind of sandwiches I like to make.”

“ I liked the appearance of the bread. It has a nice color to it and appears fresh.”

# Put a Claim on It

The participants in the study represented commercial bread aisle and in-store bakery bread shoppers. When asked what they notice most when purchasing bread, they gave these top three answers, which are in order:

① Claims
② Nutrition panel
③ Ingredient list

When purchasing sliced bread, how frequently do you look at / notice the:					
	Always	Usually	About Half the Time	Not Usually	Never
Claims ("All Natural," "Low Sodium," etc.)	60%	27%	8%	4%	1%
Nutrition Panel	35%	27%	18%	15%	5%
Ingredient List	27%	24%	21%	19%	9%

Although front-of-package claims represent the point of entry for these bread consumers, when it comes to what is most important to them, the nutrition panel had a slight edge, followed by packaging claims:

When purchasing sliced bread, how important are each of the following:		MEAN 1 = Not Important at All 10 = Extremely Important
	Claims ("All Natural," "Low Sodium," etc.)	6.8
	Nutrition Panel	7.0
	Ingredient List	6.5

## Drop in ENSEMBLE™ and Let Taste Rule

With the FDA ruling revoking the generally recognized as safe (GRAS) status of PHOs, bread manufacturers must find non-PHO options that match the performance of their PHO counterparts.

Reformulation doesn't have to be a complex process, though. Corbion's ENSEMBLE™ line of non-PHO-derived emulsifiers

delivers a drop-in solution that won't negatively compromise flavor, taste, texture or quality with the consumer.

As a result, formulation efforts are streamlined, enabling manufacturers to make the switch to non-PHOs without missing a beat, while consumers continue to enjoy every bite.

To learn more about the Corbion ENSEMBLE™ portfolio of non-PHO emulsifiers, visit [CorbionEnsemble.com](http://CorbionEnsemble.com).