

Ardent Mills' 2022 Flour Safety Survey Results

Key Findings



Methodology

What: Consumer survey about food/flour safety

Who: 1,001 U.S. consumers, 18 years of age or older*

When: Fielded between August 19-23, 2022

How: Online survey

*Overall sample balanced to U.S. population on key characteristics (i.e., age, gender, ethnicity, region, household income, etc.)

Key takeaways

Consumers are unaware of risks associated with eating raw flour.

- 44% believe flour overall is safe to eat before it is cooked.
- Another 19% do not know if it is safe to eat raw flour (significantly higher than for other food safety risks).
- Nearly one-half (45%) of consumers think it is safe to eat batter for baked-goods made in their kitchen.



Key takeaways

Lack of flour safety awareness understanding drives at-risk behaviors.

- More than half (53%) of consumers who use refrigerated/frozen cookie dough occasionally sample the product prior to baking it.
- Three-quarters of (74%) of consumers sometimes taste the batter directly from the mixing bowl, spoon or beater.



Key takeaways

Millennial and Gen Z consumers, as well as parents, tend to participate in at-risk behaviors at higher frequencies than Boomers or Gen X consumers.

- 82% of consumers aged 17 – 34 lick the beaters or mixing spoon after mixing cakes, cupcakes, muffins and/or brownies.
- Boomers are 19% less likely than Millennials and Gen Z to lick the beater / mixing spoon, and 50% less likely to taste / eat refrigerated cookie dough before baking.
- Notably, parents of children 16 and younger have the greatest at-risk behaviors.
 - Parents of children 16 and younger are 3% more likely to lick the beater / mixing spoon
 - Parents of children 16 and younger are 39% more likely to taste / eat refrigerated or frozen cookie dough before baking



Most consumers are either incorrect or unaware of the risks posed by consumption of “raw” flour

63% of consumers believe at least one of the flour-related scenarios is safe to eat.

Notably, 1 in 5 consumers do not know whether uncooked flour is safe to eat or not.

Food Safety Perceptions

Behavior	Very/Somewhat Safe to Eat	Very/Somewhat Unsafe to Eat	Do Not Know
Any food items that contain FLOUR before the item is cooked or baked	44%	37%	19%
BATTER/MIX for a home-baked item directly from the bowl, mixing spoon, etc.	45%	47%	8%
Refrigerated/Frozen COOKIE DOUGH raw, before it is baked into cookies	37%	56%	7%
FRUIT/VEGETABLES before they are rinsed off	42%	54%	4%
MEAT/POULTRY that did not reach recommended inner cook-temperature level	20%	75%	5%
DAIRY products that are more than 3 days beyond the expiration date	42%	53%	5%

Consumption of raw flour is a common behavior

Participation: Frequently/Occasionally*

74%

Lick the beaters or mixing spoon after mixing cakes, cupcakes, muffins, and or brownies.

53%

Taste or eat refrigerated or frozen cookie dough (bought at the store) before baking it.



Results by age

Consumers of all ages have inaccurate perceptions about flour-related food safety

Food Safety Perceptions by: % Very/Somewhat Safe

Behavior	18 - 34	35 - 54	55 - 64	65+
Any food items that contain FLOUR before the item is cooked or baked	41%	46%	49%	42%
BATTER/MIX for a home-baked item directly from the bowl, mixing spoon, etc.	44%	48%	50%	40%
Refrigerated/Frozen COOKIE DOUGH raw, before it is baked into cookies	38%	44%	38%	26%

9 Q: From a personal HEALTH standpoint, how SAFE do you think the items listed below are for you/your family to EAT?



Millennial and Gen Z consumers tend to participate in at-risk behaviors at higher frequencies than Boomers or Gen X consumers

Participation: % Frequently/Occasionally*

Behavior	18 - 34	35 - 54	55 - 64	65+
Lick the beaters or mixing spoon after mixing cakes, cupcakes, muffins, and or brownies.	82%	74%	74%	63%
Taste or eat refrigerated or frozen cookie dough (bought at the store) before baking it.	74%	58%	37%	24%



Results among parents

Parents of children living at home (16 or younger) have limited knowledge and riskier behaviors

Notably, parents were more likely than other consumers to participate in activities that have higher food safety risks.

Food Safety Perceptions and Behaviors

% Very/Somewhat Safe to Eat	Total Consumers	Parents
Any food items that contain FLOUR before the item is cooked or baked	44%	45%
BATTER/MIX for a home-baked item directly from the bowl, mixing spoon, etc.	45%	47%
Refrigerated/Frozen COOKIE DOUGH raw, before it is baked into cookies	37%	42%
% Participate Frequently/Occasionally	Total Consumers	Parents
Lick the beaters or mixing spoon after mixing cakes, cupcakes, muffins, and or brownies.	74%	77%
Taste or eat refrigerated or frozen cookie dough (bought at the store) before baking it.	53%	62%

Q: From a personal HEALTH standpoint, how SAFE do you think the items listed below are for you/your family to EAT?

Q: How OFTEN do you participate in the following activities?



Detailed results among total consumers

Food safety perceptions

Behavior	Very Safe to Eat	Somewhat Safe to Eat	Somewhat Unsafe to Eat	Very Unsafe to Eat	Don't Know
Any food items that contain FLOUR before the item is cooked or baked	15%	29%	24%	13%	19%
BATTER/MIX for a home-baked item directly from the bowl, mixing spoon, etc.	12%	33%	34%	13%	8%
Refrigerated/Frozen COOKIE DOUGH raw, before it is baked into cookies	10%	27%	35%	20%	7%
FRUIT/VEGETABLES before they are rinsed off	7%	35%	37%	17%	4%
MEAT/POULTRY that did not reach recommended inner cook-temperature level	4%	16%	30%	46%	5%
DAIRY products that are more than 3 days beyond the expiration date	9%	34%	28%	25%	5%

Participation frequency*

Behavior*	Net: Do	Frequently	Occasionally	Never
Taste or eat refrigerated or frozen cookie dough (bought at the store) before baking it	53%	17%	36%	47%
Lick the beaters or mixing spoon after mixing cakes, cupcakes, muffins, and or brownies	74%	32%	43%	26%
Eat fruit or vegetables before thoroughly rinsing/washing it off	61%	23%	37%	39%
Eat meat/poultry without first using a thermometer to make sure it has reached the recommended cook-temperature	76%	46%	31%	24%
Consume DAIRY products that are more than 3 days beyond the expiration date	52%	12%	40%	48%

Thank you



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