How Does Baking Powder Change Pizza Dough?

Question:

What happens to pizza dough when different amounts of baking powder are added?

Hypothesis

If more baking powder is added to pizza dough, the dough will rise more, but it will not taste as good.

Background Research

- From the website ‘The Spruce Eats’ it was found that “Too much baking soda or baking powder can mess up a recipe, causing it to rise uncontrollably and taste terrible.”

Materials List

- 1 cup Flour (x2)
- 1 cup of Greek Yogurt (x2)
- ½ tablespoon of baking powder
- 1 ½ tablespoons of baking powder
- ½ teaspoon of garlic powder (x2)
- ½ teaspoon of salt (x2)
- ½ teaspoon of oregano (x2)
- ½ cup of marinara sauce (x2)

Materials List

- 12 pepperonis (x2)
- 1 cup of Mozzarella cheese (x2)
- Measuring spoons
- 2 mixing bowls
- Oven (adult help)
- Ruler
- Baking sheet
- Camera
- Computer

Variables

Independent Variables:

- Amount of baking powder (½ tbsp Vs 1 ½ tbsp)

Variables

Dependent Variables:

- How much the dough rises
- Texture and taste of the crust

Variables

Controlled Variables:

- Same ingredients
- Same baking time
- Same oven temperature
- Same amount of dough

Procedure

1. Make two pizza doughs using the same recipe.
2. Add **½ tbsp of baking powder** to Dough A.
3. Add **1 ½ tbsp of baking powder** to Dough B.
4. Shape both doughs the same size.
5. Measure the height of each dough before baking.

Procedure

6. Bake both pizzas at the same temperature for the same amount of time.
7. Measure the height after baking.
8. Observe how each pizza looks, feels, and tastes.

Results

Before baking, the experiment had one major difference. For Dough A texture looked dried compared to Dough B. Dough B felt more slimy and from this observations, you can predict that for Dough B would be more puffy or more rise on the dough.

Results
Before baking:

Dough A

Diameter:
9 ½ inches

Dough B

Results
Before baking:

Dough A

Thickness:
½ inch

Dough B

Thickness:
½ inch

Results
After baking:

Dough A

Diameter:
~8 inches

Dough B

Results
After baking:

Dough A

Thickness:
¾ inch

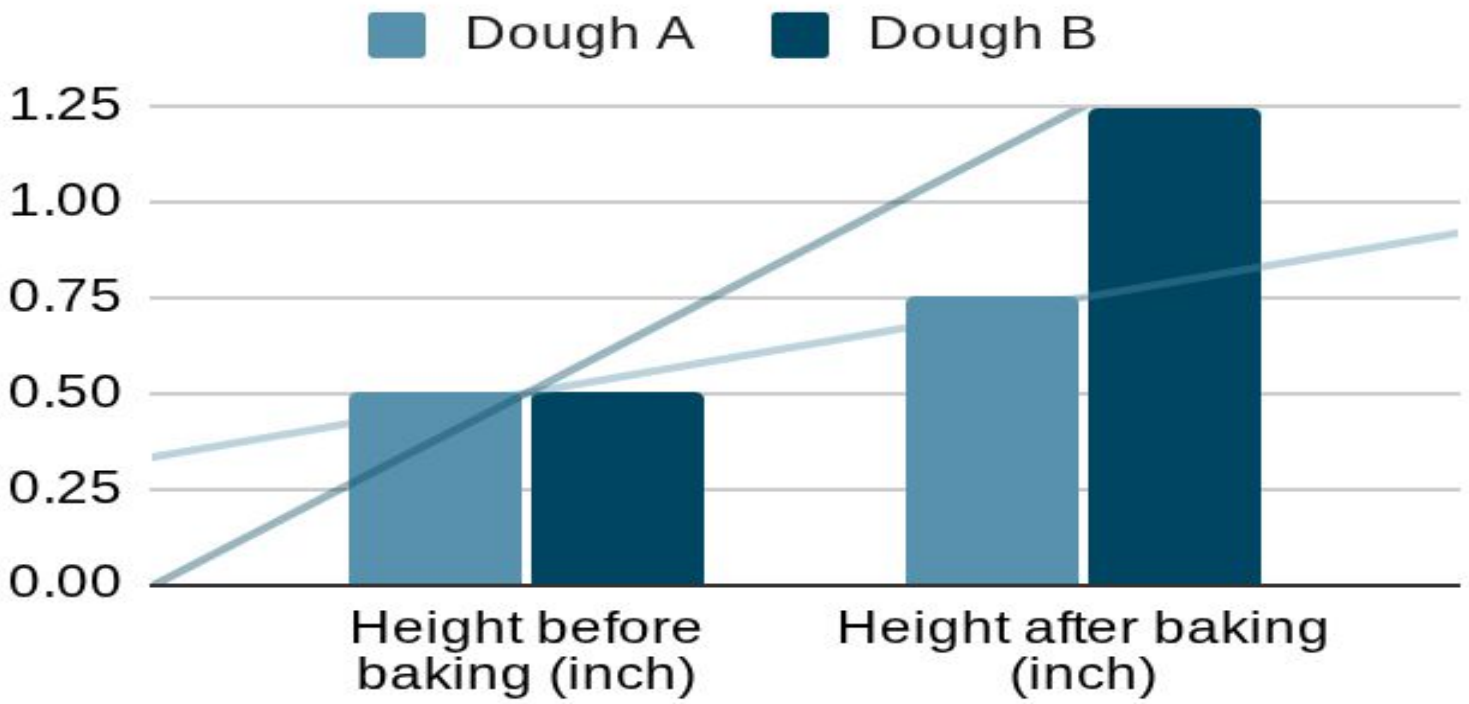
Dough B

Thickness:
1 ¼ inches

Results

Dough	Baking Powder	Height before baking	Height after baking	Texture	Taste
A	½ tbsp	½ inch	¾ inch	chewy	normal
B	1 ½ tbsp	½ inch	1 ¼ inches	Puffy and airy	better tender

Rise Of Pizza Dough



Conclusion: Discussion and Interpretation

The pizza dough with **½ tbsp of baking powder** tastes normal with a small rise and dense texture. The pizza with **1 ½ tbsp of baking powder** prediction on rising more was as predicted. But the taste was not bitter at all, even visually the pizza with **1 ½ tbsp of baking powder** looks more satisfying. The taste was more full, tender, airy and delicious.

Abstract: Implication and Ideas for Further Research

The question being investigated in this experiment was ‘What happens to pizza dough when different amounts of baking powder are added?’. The hypothesis of this investigation was if adding three times more than the normal amount of baking powder the pizza dough would rise more but it would add a bitter taste. The dependent variable was how much dough rose and tasted. The independent variable was the amount of baking powder added. The steps for this procedure were to bake 2 pizzas with same ingredients and same amount of baking time and same cooking temperatures and the only difference would be how much baking powder was added. The results for this experiment were for the pizza that was added more baking powder than the normal amount was actually better taste and smooth texture. The hypothesis was both correct and incorrect because it was in fact thicker dough but for the taste the prediction was bitter taste and the result was a perfect and delicious taste and texture. From the experiment it was learned that baking powder makes pizza dough rise more when baked. This project could be better by changing the amount of baking powder added to see when the baking powder makes the pizza taste bitter.

References: Bibliography/Citation

- https://www.thespruceeats.com/too-much-baking-soda-1388008