



# Is There Such a Thing as the Perfect Macaroni And Cheese?

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## Abstract

- Researchers set out to create the perfect Macaroni and Cheese combination.
- Measuring stretchability, moisture content, as well as cheese combinations.
- Four paired comparison trials were carried out in a controlled college campus environment.
- Researchers found that finding the perfect cheese mix is more difficult to accomplish than anticipated.

## Introduction

One of the quintessential comfort foods in American cuisine is macaroni and cheese. That chewy spoonful of noodles covered in a creamy, stretchy cheese is the thing of which dreams are made. There are many questions to consider: 'what types of cheese does one use?', 'does it need a topping?', is the dish *cheesy* enough?'. In this experiment, the researchers take the humble macaroni and cheese and tweak out what types of cheeses will blend to make the perfect taste, consistency, and texture.

## Methods and Materials

**Materials:** Researchers used a variety of equipment such as a scale, cutting board, chef knife, cheese grater, measuring cups and spoons, mixing bowls, two spatulas, two whisks, one small stock pot, two straight-sided sauté pans, two small saucepans, and two 8x8 square baking dishes identical in thickness for equal heat transfer while baking.

**Subjects and Setting:** 12 college students (two male, 10 female) and two instructors (both female) from a Midwestern College.

**Objective Evaluation:** Measures stretchability of both the controls and experiments in attempts 3 and 4.

**Nutrition Analysis:** Food Processor

## Results

- Trial 1 tested hand shredded cheese and pre-shredded cheese to decide on a control.
- Trial 2 tested a single cheese sauce and multiple cheese sauce
- Trial 3 tested a single cheese sauce and a refined multiple cheese sauce
- Trial 4 tested a boxed macaroni and cheese to a final revision of the multiple cheese sauce

## Attempt 4 Median Scores n=9

Characteristic	Median Score Control	Median Score Mixed Cheeses
Consistency	2.11	2.75
Color	3.22	2.56
Flavor	2.13	2.88
Palatability	2.88	3.31
Overall	3.33	4.33
Comments:	<ul style="list-style-type: none"><li>• 3 tasters said they would make the control sample</li><li>• 5 tasters said they would make the experiment</li><li>• 1 taster did not comment</li></ul>	



## Discussion

Further testing is a vital step to advance research into this topic. Future researchers could do a plethora of additions, substitutions, and endless combinations of mixed cheeses to create the perfect macaroni and cheese.

Recipes are templates and are made to be a guide. Anyone can change or tweak an ingredient or amount, which may lead a person to make a recipe like this one healthier by substituting whole grain pasta instead of basic enriched pasta, or instead of using a bechamel, use winter squash instead. A person could use their own combination of low-fat cheeses, use oil instead of butter in the roux, or use skim milk instead of whole milk.

## Conclusions

The researchers were hopeful that there could be a perfect Macaroni and Cheese, but since the final test, there were a few testers including one researcher that chose the boxed version over the homemade. This concludes that there may never be one Macaroni and Cheese recipe to satisfy all palates. We can, however, make a Macaroni and Cheese recipe that would appeal to many people and from the very limited sample size, the homemade sample was chosen almost 2 to 1 over the boxed version.

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## References

Available upon request