# UNDERSTANDING HOW CONSUMERS DETERMINE THE READINESS OF DOUGHS USING THE THINK ALOUD TECHNIQUE

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## INTRODUCTION

- Most of dough studies focus on the texture, rheology and microstructure of them.
- Measurements need to be related to how the dough behaves in the hands of users and preparers.
- Anecdotal evidence from the industry and other sources, suggest that naïve consumers do not understand clearly how to make a dough.
- Consumers' qualitative studies allow a better understanding of a product.
  - Think Aloud technique, as a qualitative research technique, requires the users/consumers to talk and vocalize their thoughts while performing a task.
- Theoretical information from qualitative research needs to be transferred into practice.
  - Recipes are a common source of information for consumers.
  - Previous research shows that recipes influence people's behavior at the kitchen.

## OBJECTIVES

- To develop and evaluate different recipe styles for the preparation of doughs by understanding and using people's descriptions, techniques and preparation terms through the application of the Think Aloud technique.

## MATERIALS AND METHODS

### *Qualitative study*



Subjects recruiting

- Wheat preparers: Manhattan, KS, USA (n=43).
- Corn preparers: Guadalupe, San Jose, Costa Rica (n=50).
- Not professional bakers or cooks.

Dough preparation sessions

- Basic ingredients and a basic, not detailed recipe were provided
  - They were encouraged to verbally describe their thinking process.
- Sessions were video recorded

### *Recipes construction*

- Based on the dough preparation sessions 4 recipes were written:
  1. Step-by-step format, very detailed recipe
  2. Step-by-step format, detailed recipe
  3. Detailed recipe with images and captions.
  4. Detailed recipe in a paragraph format.

### *Recipes validation - online surveys*

- The recipes written plus the basic, not detailed recipe were validated through an online survey using Qualtrics survey software.
- Two online surveys: Corn and Wheat (n=300/survey)
  - Naïve cooks that wanted to learn to prepare yeast breads or corn tortillas.
- Participants answered:

1. Ease of the recipes
2. Likelihood to use the recipes at home
3. Perceived amount of information in the recipes
4. Likeability of the instructions
5. Helpfulness of the format
6. CATA questions for factors of liking and disliking

### *Data Analysis*

Dough preparation sessions

- A transcript of each of the sessions was built.
- Information collected for the recipes:
  1. Amount of ingredients (g).
  2. Measurement technique (household/volume and/or weight, neither).
  3. Water temperature (ºC).
  4. For the mixing and kneading, the following information was collected:
     a. Time.
     b. Utensils.
     c. Technique applied.
     d. Attributes used to describe the ready dough.

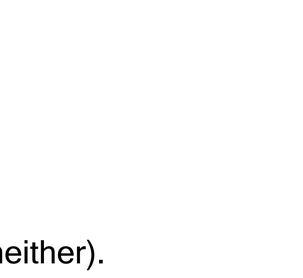
Recipes validation

- ANOVA to determine significant differences ($p \leq 0.05$) across recipes.
  - Means comparisons using Tukey's HSD test
- CATA questions results are presented using correspondence analysis

## RESULTS AND DISCUSSION

### *Qualitative study-dough preparation sessions*

Dough preparation sessions

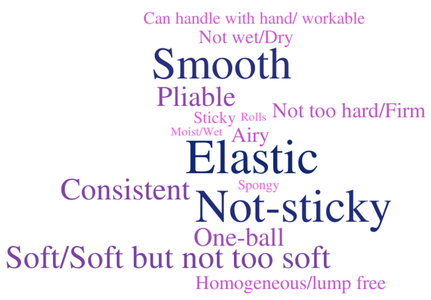


- Household/volume measurements were the most commonly used by corn and dough preparers.
- Common terms/techniques used for the dough preparation:

*Circular motions*
*From the edges to the center*
*Scraping the bowl*
*Adding water a little bit at a time*
*Pressing, pushing or squeezing*
*Folding the dough*

Description of ready wheat dough






## RESULTS AND DISCUSSION (continuation)

Description of ready corn dough





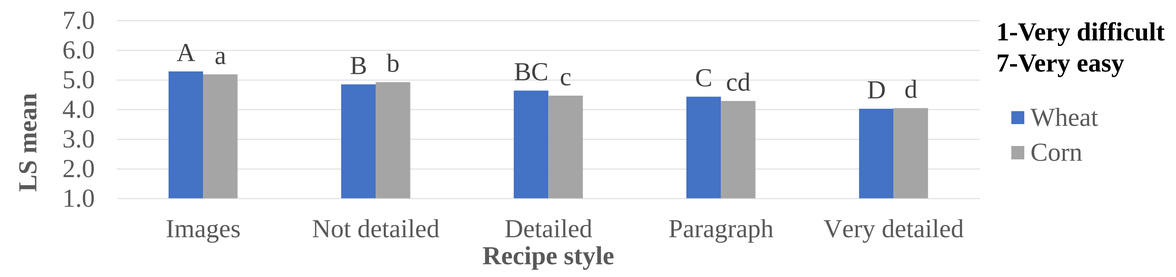

### *Recipes construction*

Recipe with images for the preparation of corn tortillas

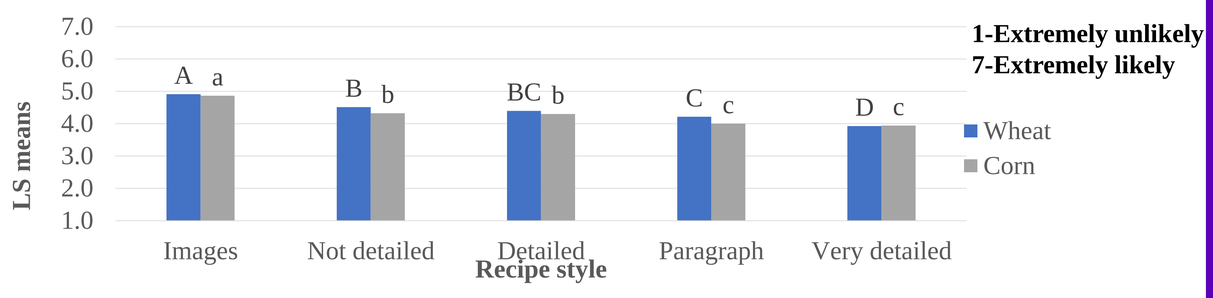



### *Recipes validation - online surveys*

Ease of the recipes

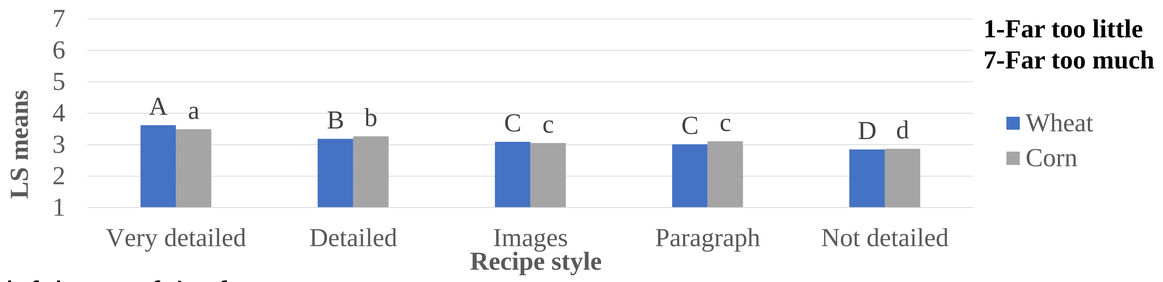



Likelihood to use the recipes

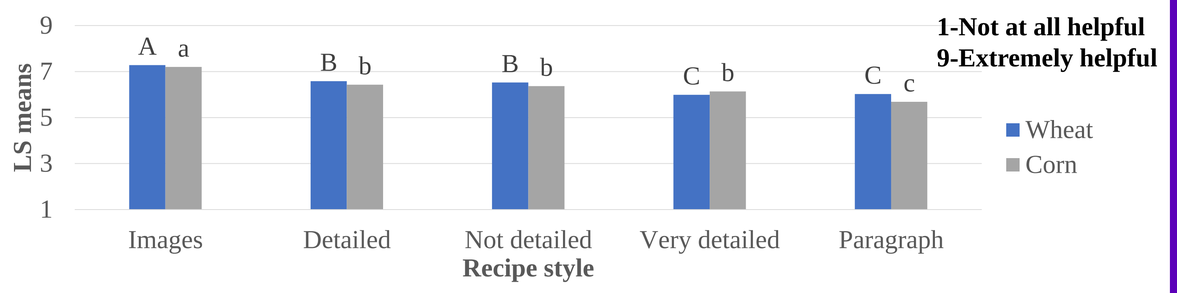



- Pearson's correlation test showed high correlations between the ease of the recipes, the likelihood to use the recipes at home, and the likeability of the instructions.

Amount of information



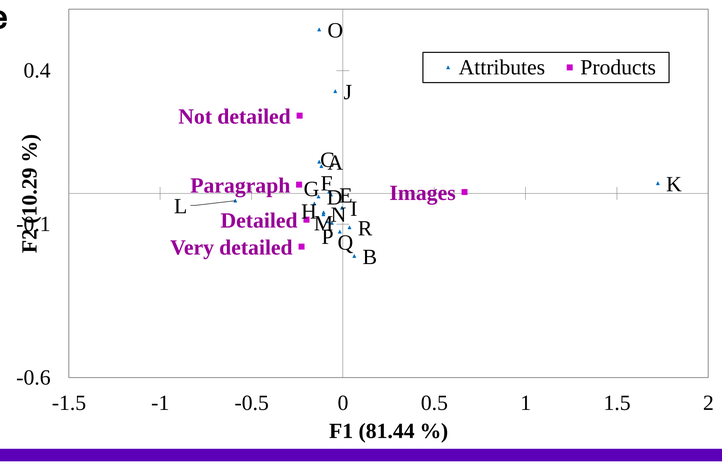

- Helpfulness of the format




- During the qualitative study, participants mentioned the not detailed recipe was not helpful and not providing enough guidance.

### Liking factors: Wheat study example

***Key:*** *A-That it uses household measurements, B-Utensils list, C-Ingredients list, D-The initial setup is described, E-The dough making procedure, F-Times in the initial setup, I-Times in the dough making procedure, J-The length of the recipe, K-That it has images, L-That it does not have images, M-Temperatures in the initial setup, N-Temperatures in the dough making procedure, O-That the recipe is not very detailed, P-That the recipe is very detailed, R-The description of the ready dough*




## CONCLUSIONS

- The application of the Think Aloud Technique represents a useful way of understanding and identifying the language and techniques people use.
- This information can be used for communicating how to prepare a product through a recipe.
- The format in which the recipe is presented might be the most important factor evaluated by consumers when deciding to use a recipe or not.
- Users preferred recipes that have images since they considered them easier and more helpful. On the other hand, they do not like long, very detailed recipes.