



Bread, the Staple Food:



Holding Ancient Mesopotamian Society Together

Ancient Lives, Fall 2018

Food Science Group

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Food Science: Can it Help Us Understand?

Archeology and anthropology



Food science and experimentation



Understanding culinary practices of ancient Mesopotamia

Introduction: Barley

- Barley was a staple cereal
- We have evidence that the Mesopotamians made leavened bread in the bevelled rim bowls
- Problem: Leavened bread made with barley will not rise, because barley has the wrong type of gluten

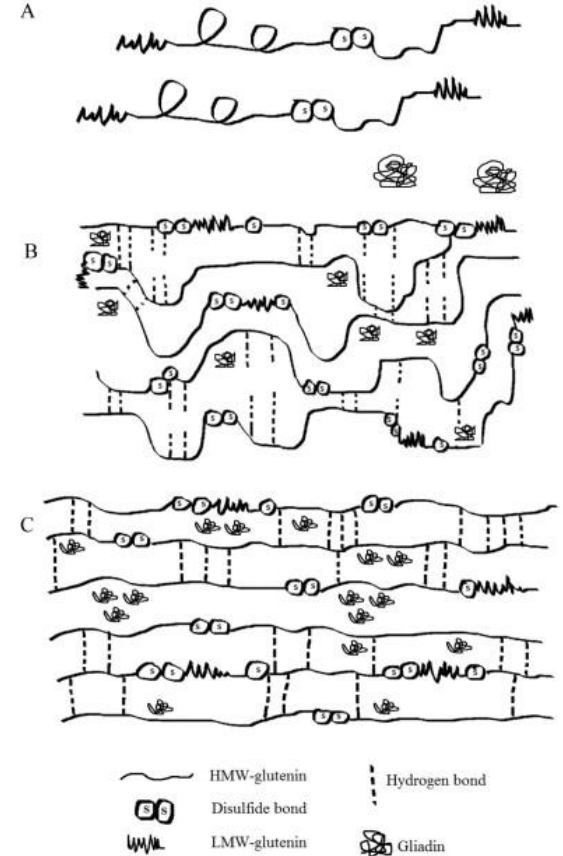


Introduction: Leavened Bread

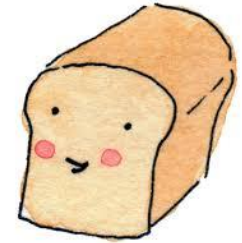
80% Barley 20% Wheat: Cascading Consequences

- Risen bread with gluten network has increased nutritional content
- Equally importantly, eating risen bread is a better subjective experience

→ What is the effect of varying concentrations of barley on bread rising/quality?



Materials & Methods



STEP 1: Starters

4 sourdough starters with different combinations wheat and barley concentrated, and one chickpea starter

STEP 2: Growth

Plated a small amount of each starter to observe the amount of bacterial and yeast growth

STEP 3: Dough

Formed doughs by mixing these sourdough cultures with various ratios of barley and wheat flours

STEP 4: CO₂

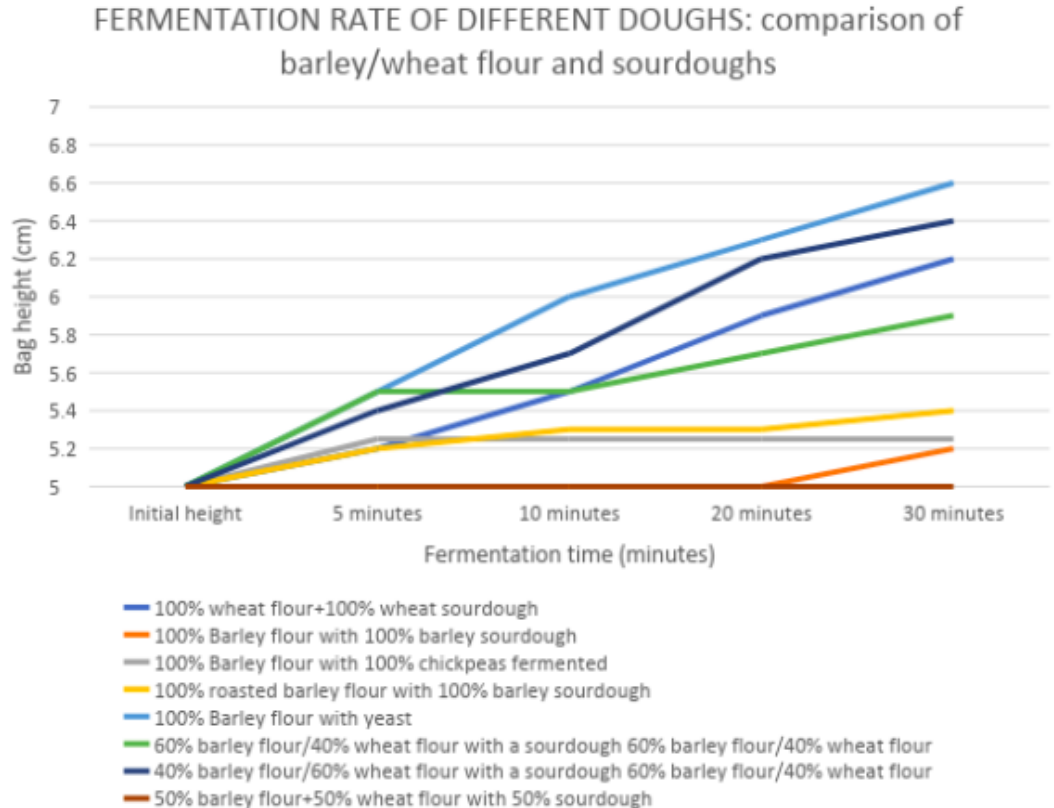
Measured the rate of CO₂ production per loaf by the rise in height of the dough mound

STEP 5: Bake!

Baked the bread! Note the taste and the consistency of each loaf

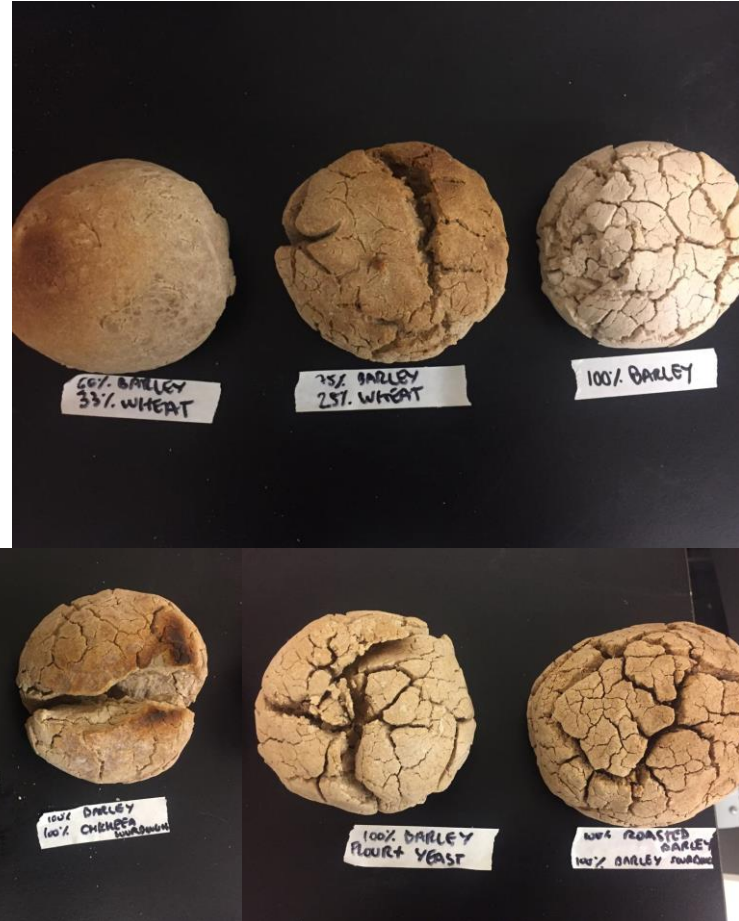
Results

- The fastest fermenting breads were all the ones with higher concentrations of wheat in them.
- These were also the highest quality breads.



Results

- The breads' quality increased significantly with even a small amount of wheat added.
- The chickpea sourdoughs fermented slightly faster than the barley ones, but did not add enough protein to make a difference in nutrition.
- In comparing the roasted barley bread to the non-roasted barley bread, the differences were purely aesthetic.



The Beginning of THE END



The Middle of THE END




THE END

