Optimization of traditional processing of local broken rice-based Ablo

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INTRODUCTION

Rice is widely produced in West African countries but leads mainly to broken rice. Local broken rice can be valorized though Ablo processing which is highly variable. This wet bread, made with rice and/or maize flour is widely consumed in West Africa as side dish for different kinds of sauces.

How can we standardize broken rice-based Ablo processing?

AIMS

➢ Assess the effect of precooking, mixing and fermentation conditions on broken rice-based Ablo quality;
➢ Establish optimal processing conditions leading to acceptable broken rice-based Ablo for urban consumers.

METHODOLOGY

- Plant material: Rice variety IR841
- RSM of central composite design using:
  - Precooking [amount of rice flour (25-50%); amount of water (40-90%); duration (0-10 min)]
  - Mixing [wheat flour (7-27%); water (12.6-35%)]
  - Fermentation [baker’s yeast (0.06-1.2%); temperature (26.6-33.4°C); Duration (0.6-7.4 h)]

RESULTS

➢ Relationship between processing conditions and fermented dough and Ablo properties

Variations of processing conditions (in red above) strongly affect dough functional properties (in yellow above), dough performance (in green above) and Ablo quality (in black and blue above).

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