# Effect of ripening time and salt reduction or substitution in pork sausages sensory characteristics

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## INTRODUCTION

Sausages are traditional products


Sausages are made with salts

Salts may be bad for health

Salts must be reduced or substituted

Changes can modify quality characteristics

## OBJECTIVES

Evaluation of sensory characteristics

Meat sausages

Four different salt formulations:

Two ripening times (6 and 12 days).

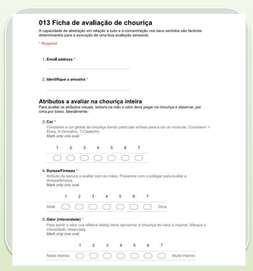
**Form1**: 2% NaCl

**Form3**: 1.5% NaCl, 0.5% KCl

**Form4**: 1.5% Sub4Salt, 0.5% NaCl

**Form5**: 0.5% Sub4Salt, 1.5% NaCl

## MATERIAL and METHODS




Evaluated attributes:

- appearance (exterior and interior color)
- odor (intensity before and after cutting)
- taste (salty, bitter and metallic)
- texture (firmness perceived by thumbs and hardness, juiciness and chewiness in mouth)
- flavor (set sensation, intensity and persistence)


Five samples of each formulation were evaluated considering the salt formulations in two sessions for each ripening time.

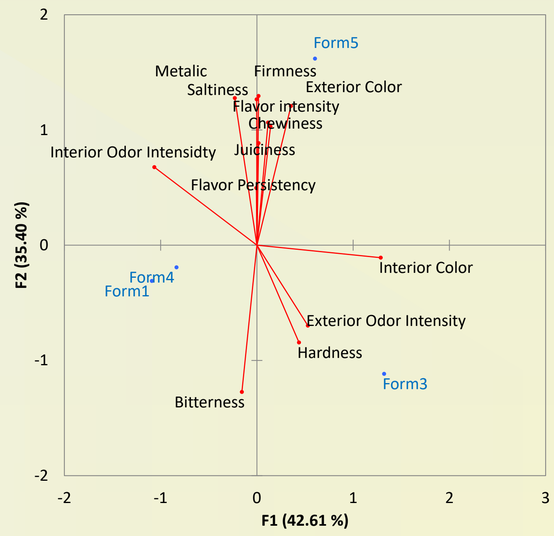

Samples were evaluated by a 10 elements meat products qualified taste panel

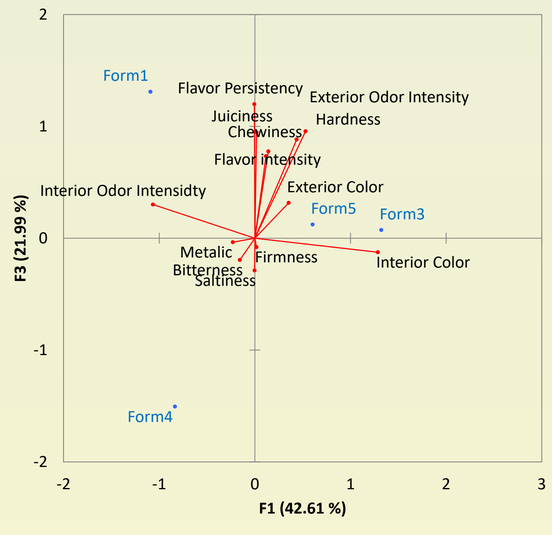
Portuguese standards, using a 7 points scale.

Data were submitted to the Product Characterization procedure and to a Generalized Procrustes Analysis (GPA).

## RESULTS

6 days ripening time, consumed after thermal treatment

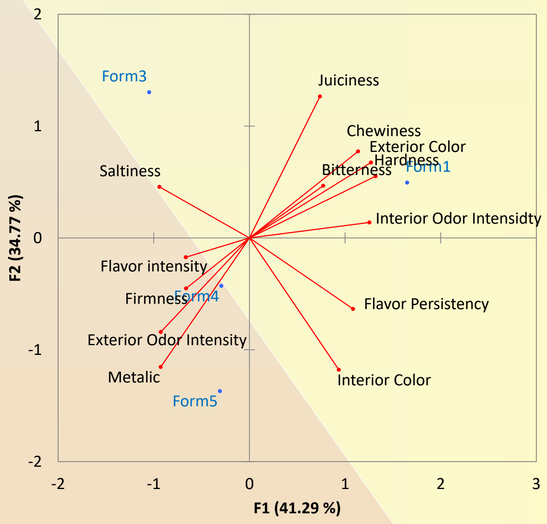


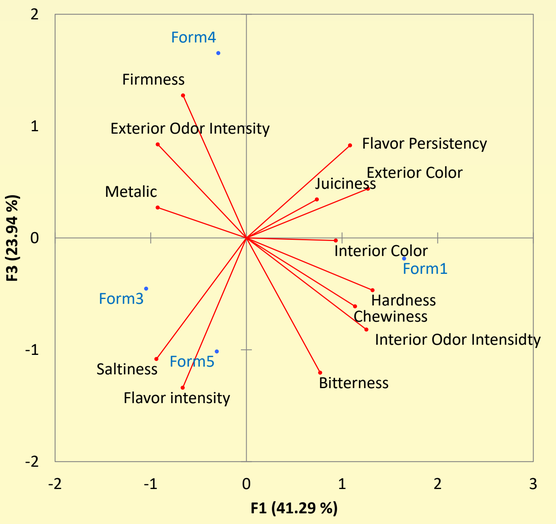




I. Form1 had more intense inner odor and flavor persistence
II. Form3 had a darker interior color (darker red), the higher odor intensity, hardness and bitter taste
III. Form4 was where higher values of basic, yet not very high, flavors were noted
IV. Form5 had the highest values of texture, outer color and flavor intensity

Results of the characterization of the products indicate that only firmness felt by the thumbs presented a discriminatory power between sausages with shorter ripening time, Form3 had significantly lower firmness than the other formulations.

12 days ripening time, raw consumption




I. Form1 had higher values for hardness, chewing, exterior color, internal odor, bitter taste and persistence of the flavor
II. Form3 was considered the most succulent and salty
III. Form4 was the one that had the most firmness
IV. Form5 had the highest intensity of interior color and metallic taste

The characterization of the products identified the external color as the only attribute with significant discriminatory power. Form1 had significantly darker color and Form5 had a lighter color.

## CONCLUSIONS

Panelists do not detect very significant differences in sensory characteristics when changing salt levels in formulations which may be important in the production of healthier products.

## AKNOLEDGEMENTS

Laboratory of Technology and Quality of the Carcass and Meat

Laboratory of Sensory Analysis