

THE EFFECT OF INCUBATION TEMPERATURE AND DURATION ON THE SENSORY

ATTRIBUTES OF SEMI-DURABLE SAUSAGES

Kos Ivica*, Stvorić Martina, Pećina Mateja, Bendelja Ljoljić Darija, Vnučec Ivan, Mirić Milijana

University of Zagreb Faculty of Agriculture, Svetošimunska 25, HR-10000 Zagreb

*ikos@agr.hr



4th International Congress
on Food Safety and Quality

ONE HEALTH

November 9th-12th, 2022 | Dubrovnik, Croatia



Background and aim

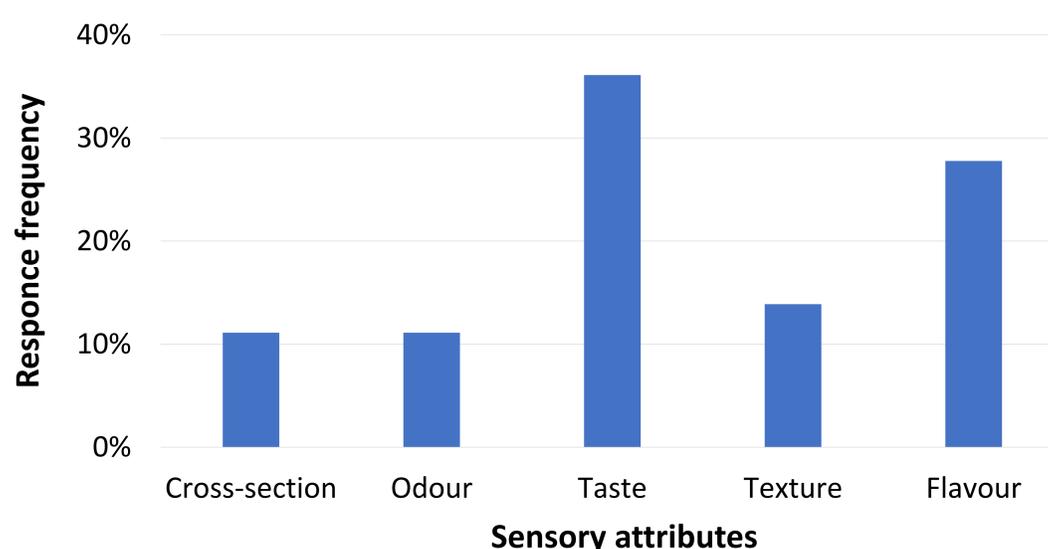
- Clean label initiatives
- Utilization of starter cultures for reduction of nitrates to nitrites during incubation period before heat treatment

The aim of this paper was to determine the change of the sensory traits of semi-durable sausages produced under different incubation temperature and duration

Materials and methods

- Manufacture of semi-durable sausages with the addition of *Staphylococcus carnosus* and nitrates vs. typical nitrite added sausages
- Four experimental treatments differentiated in incubation temperature (30 and 40 °C) and duration (1.5 and 3 hours) prior heat treatment
- The difference from control test was used and 18 trained assessors participated (indicated the magnitude of the difference between samples and provided information in which attributes the samples differed)
- One-way ANOVA to determine if a significant difference between treatments existed; the Dunnett's test for treatment comparison against to the blind control

Treatment ¹	Mean DFC ²	p-value
A	1.17 ± 0.71	-
B-30-1.5	1.61 ± 1.04	0.60
B-30-3	1.17 ± 1.25	1.00
B-40-1.5	2.00 ± 1.28	0.11
B-40-3	2.28 ± 1.36	0.02



¹ A: control treatment; B-30-1.5: incubation temperature 30 °C and duration 1.5 hours; B-30-3: incubation temperature 30 °C and duration 3 hours; B-40-1.5: incubation temperature 40 °C and duration 1.5 hours; B-40-3: incubation temperature 40 °C and duration 3 hours

² Average difference between control and test treatments where 0 meant no difference and 5 extremely different

Conclusions

- It was not founded that the sausages of the experimental treatments B-30-1.5, B-30-3 and B-40-1.5 were significantly sensory different from the sausages of the control treatment.
- It can be expected that the application of a lower temperature and duration of incubation (treatments B-30-1.5, B-30-3 and B-40-1.5) will not lead to the development of sensory attributes that would significantly change the perceptual impression so such incubation conditions could be applied in the production of semi-permanent sausages.