

Compliance study of microbiological criteria in accordance with the Regulation (CE) 2073/2005 during the shelf life of spinach and chicken “Burger meat”

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INTRODUCTION

The “Burger meat” is defined by the RD 474/2014 as a fresh product made from minced meat and other ingredients, including additives, with a minimum content of cereals and vegetables. This study has been done with the aim of determining some microbiological criteria at different times.

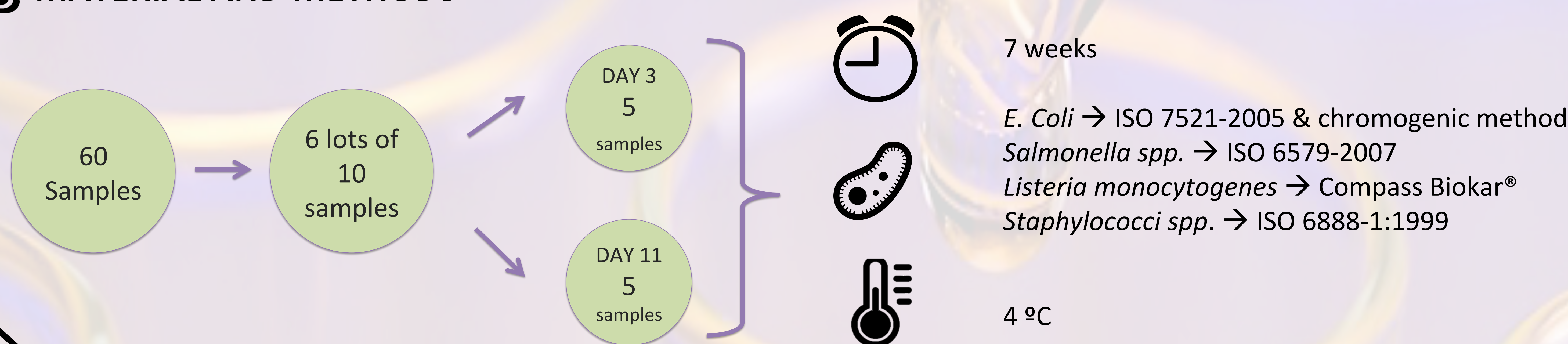


OBJECTIVES

- To check if the spinach and chicken “burger meat” complies with the Regulation in force R (CE) 2073/2005.
- To evaluate the differences between the samples analysed at the start and at the end of the “Burger meat” shelf life.
- To detect the presence or absence of *Listeria monocytogenes* and coagulase + *Staphylococci*.
- To evaluate the differences between ISO standard *E.coli* detection method and an alternative chromogenic detection method.



MATERIAL AND METHODS



RESULTS

TABLE 1			
MICROBIOLOGICAL CRITERIA OF "BURGUER MEAT" MEASURED BY MEAN			
Escherichia coli*	14.746 ± 13.307		
Salmonella spp.	Absence		
Listeria monocytogenes	Absence		
Staphylococcus coagulasa+**	<100		
TABLE 2			
DETERMINATION OF E.COLI BY EFFECT OF THE TIME MEASURED BY MEAN			
	DAY 3	DAY 11	P - Value
Escherichia coli*	20.690 ± 1.006	9.000 ± 11.017	0.0004432
TABLE 3			
DETERMINATION OF E.COLI BY EFFECT OF THE METHOD MEASURED BY MEAN			
	ISO	CHROMOGENIC	P - Value
Escherichia coli*	14.746 ± 13.307	15.158 ± 13.424	0.903428
*NMP/g **UFC/g			

Figure 1. Results obtained from the analysis of microbiological criteria in “Burger meat” and determination of *E. Coli* also measured by effect of time and method. Statistically significant differences when p-value (< 0,05).



Image 1. Spinach and chicken “Burger meat”



CONCLUSIONS

- ✓ Results of all “Burger meat” samples are in compliance with the regulation in force R (CE) 2073/2005.
- ✓ There are statistically significant differences between the samples analysed at the start and the end of the burger meat shelf life .
- ✗ Any presence of *Listeria monocytogenes* of coagulase + *Staphylococci* has been detected.
- ✗ Any statistically significant differences between the *E. Coli* detection methods have been detected.