

Novel product using a native breed of sheep (Merino da Beira Baixa): Smoked lamb

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Introduction

Merino breed emerged, in the textile industry renowned for their high-quality wool



and resilience to conditions of the Iberian Peninsula

In Castelo Branco the “Merino da Beira Baixa” is part of 3 PDO cheeses and a PGI meat



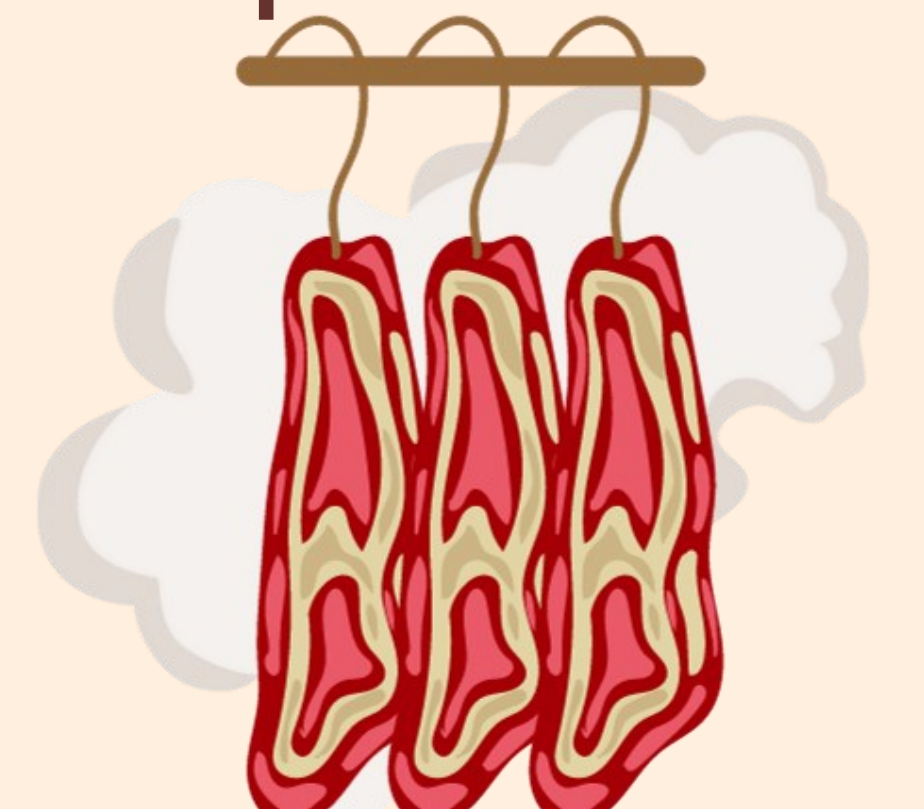
“Amarelo”, “Picante” e “Castelo Branco” and “Borrego da Beira”

The breed has experienced a decline in influence due to plummeting wool prices



and an inability to compete with more productive breeds

This work aims to develop a novel food product



using an ancestral breed and technique (smoking)

Methods

For a uniform distribution of meat, the carcass (7.88 ± 0.34 kg) is divided into two segments, one encompassing the neck, chuck, rib, and loin (Saddle), and the other comprising the legs (Leg).

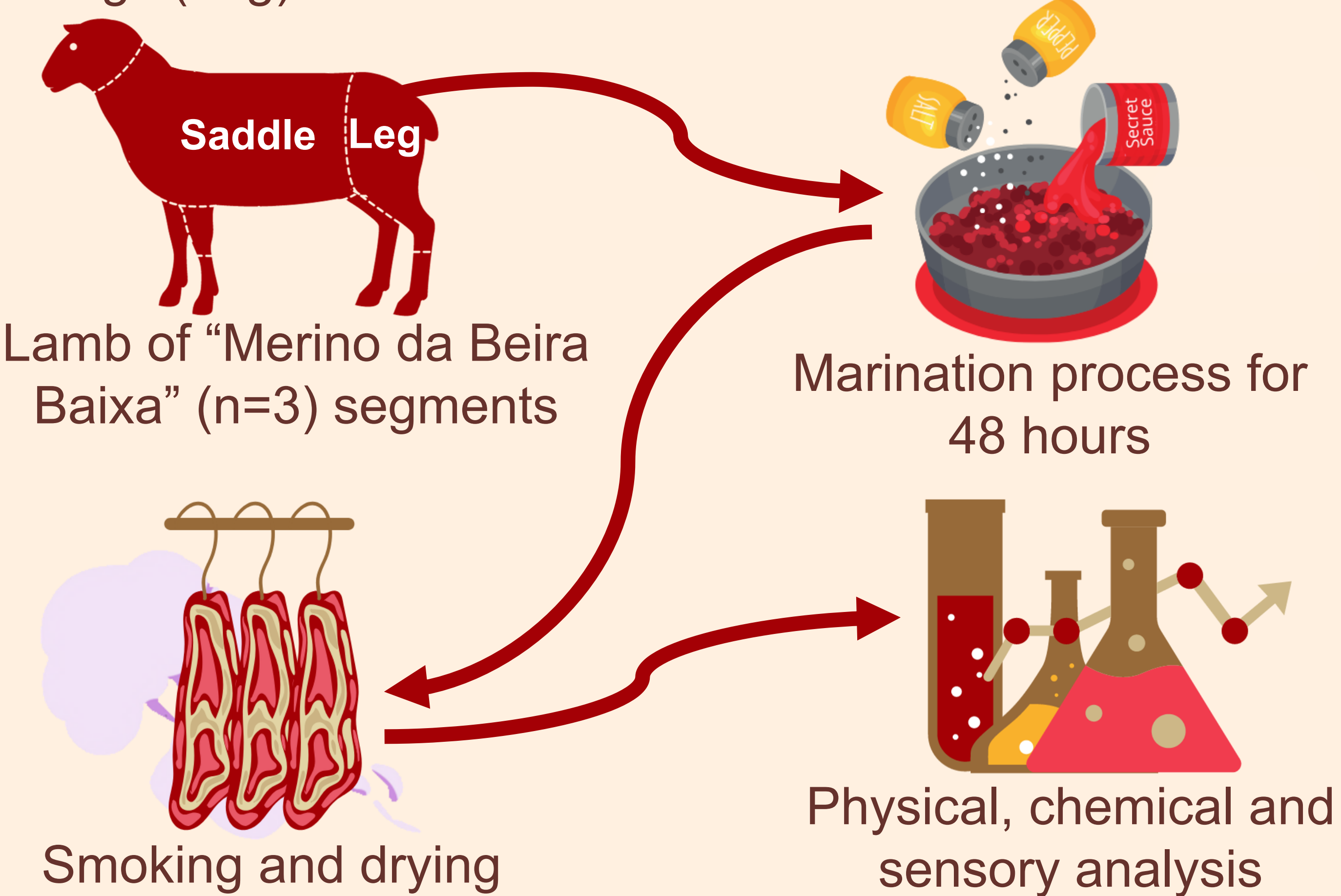


Fig 1. Methods used in the development of the novel food.

Results

Was calculated the Recommended Dietary Allowance (RDA) of the final product. Smoked “Merino da Beira baixa” lamb have the allegations: high protein, source of fibre, and low sugar.

Tab1. Physical and chemical evaluation of both meats

	Saddle	RDA	Leg	RDA
Energy (Kcal)	291.73 ± 12.22	15 %	255.50 ± 35.83	13 %
Energy (Kj)	1223.58 ± 52.19	15 %	1073.79 ± 148.40	13 %
Fat (g)	11.60 ± 0.26	17 %	8.37 ± 2.95	12 %
of which saturated (g)	4.63 ± 0.21	23 %	3.17 ± 1.16	16 %
Carbohydrates (g)	4.18 ± 0.53	2 %	2.67 ± 1.04	1 %
which sugars (g)	1.16 ± 0.05	1 %	1.04 ± 0.21	1 %
Glucose (g)	0.32 ± 0.02	-	0.33 ± 0.06	-
Fructose (g)	0.33 ± 0.03	-	0.29 ± 0.01	-
Maltose (g)	0.50 ± 0.00	-	0.42 ± 0.14	-
Protein (g)	40.86 ± 2.72	82 %	40.76 ± 1.93	82 %
Salt (g)	1.11 ± 0.16	19 %	0.76 ± 0.14	13 %
Fibre (g)	3.57 ± 0.81	14 %	3.25 ± 0.60	13 %
pH	5.58 ± 0.04	-	5.64 ± 0.02	-
a _w	0.92 ± 0.02	-	0.94 ± 0.01	-

Sensory Evaluation

Hedonic test (n=31) with a ratio of 61% female – 39% male, an average age of 32±9 years.

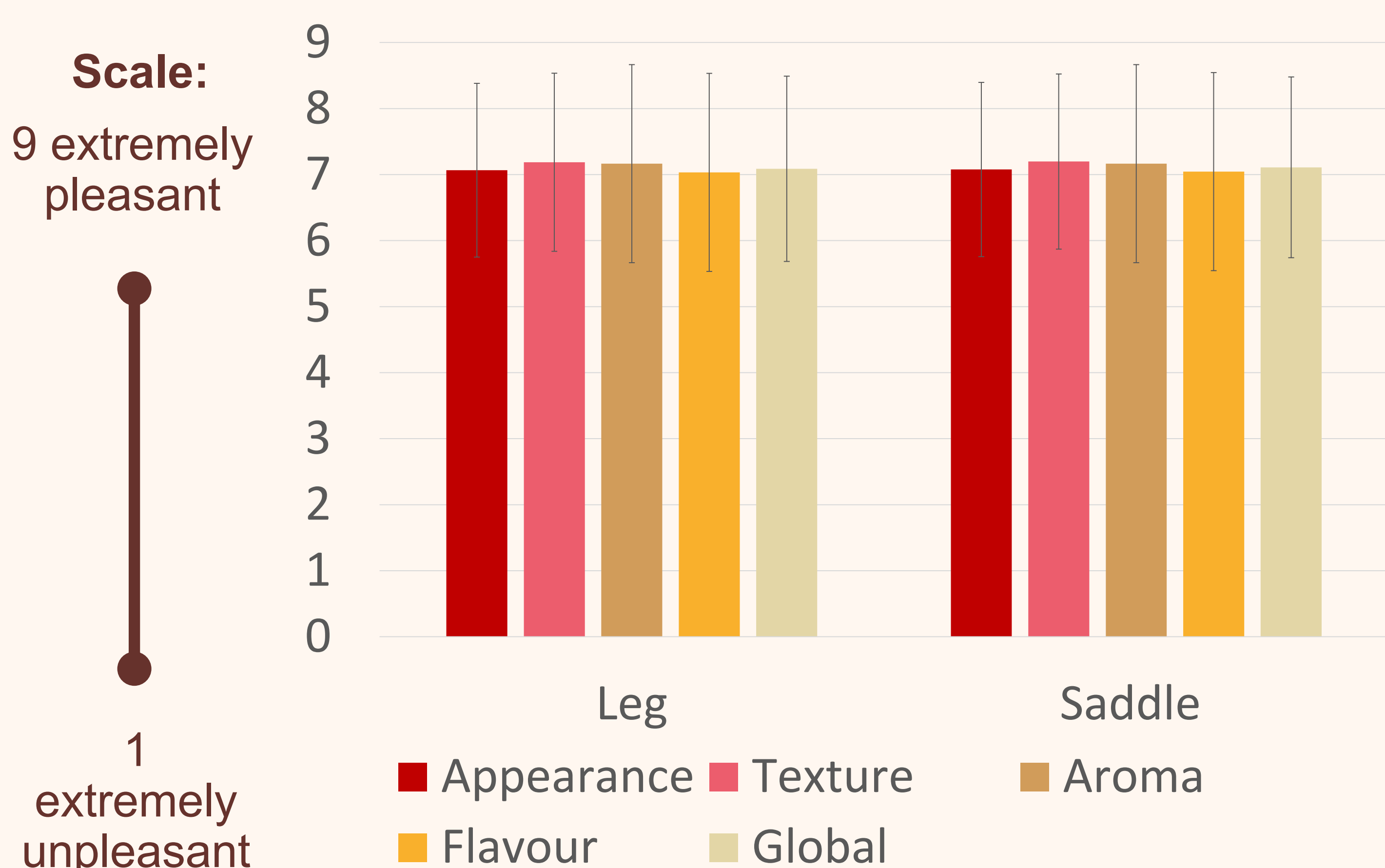


Fig 2. Results of the sensory hedonic test

Final considerations

- This product presents a high protein content (82% of the Recommended Dietary Allowance);
- This meat based product is source of fibre, incorporating fibre in the diet has been demonstrated to mitigate several risk factors associated with high protein diets;
- The high sensory acceptance of a strong flavored meat as such reveals high potential in their commercial use.