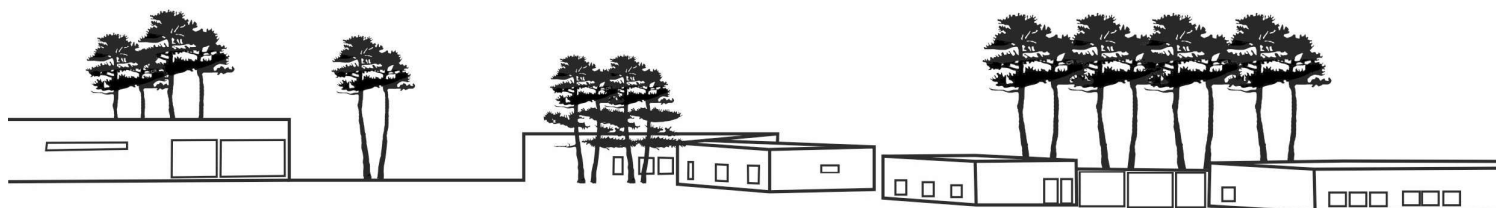




Congresso Nacional das
Escolas Superiores Agrárias

14 e 15 de novembro de 2019

Escola Superior Agrária de Viseu | IPV



Livro de Resumos



Ficha Técnica

Título: Livro de resumos do III Congresso Nacional das Escolas Superiores Agrárias

Editores: Comissão organizadora do III Congresso Nacional das Escolas Superiores Agrárias

Data: 14 e 15 de novembro de 2019

Local: Instituto Politécnico de Viseu





AMINO ACIDS PROFILE IN SERRA DA ESTRELA CHEESE: A COMPREHENSIVE STUDY

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Abstract: Milk and dairy products are of major importance in the human diet, since they are an excellent source of well-balanced nutrients which are consumed in large amounts and are easy to manufacture. The protein portion of foods as well as its aminoacids composition represents a fundamental role on the nutritional and technological value of cheese that play a key role on the cheese flavour. In the present work, the evolution of the aminoacidic fraction, namely the essential and non essential aminoacids was evaluated for a period of 9 months, from 6 certified producers. Amino acids were determined by UPLC-DAD-MS/MS with an ESI source. The chromatographic separation was accomplished using a U-VDSpher PUR C18-E column at 40 °C. The mobile phase comprised 0.1% (v/v) formic acid-water and 0.1% (v/v) formic acid-acetonitrile/water (50:50, v/v), being used a multistep gradient program at a flow rate of 0.40 mL/min with an injection volume of 5 µL. In all Serra da Estrela PDO cheeses evaluated (24 cheeses × 2 independent samples) the individual content in amino acids was quantified. In total, 21 amino acids were assessed and detected in the cheese samples evaluated, being the results in accordance with previous works. Dietary intake of SEC will provide high quality AA and proteins essential for human body. Considering that the major functions of AA and proteins is essentially structural they contribute for the development and manutention of human systems and organs. The chromatographic method developed showed to be very accurate and allowed overcome experimental drawbacks arisen with conventional liquid chromatography.

Key-words: Serra Estrela cheese; Free amino acids; Flavor; Health

Acknowledgments: This research was financially supported by Associate Laboratory LSRE-LCM-UID/EQU/50020/2019, strategic funding UID/BIO/04469/2019-CEB and BioTecNorte operation (NORTE-01-0145-FEDER-000004), strategic project PEst-OE/AGR/UI0690/2014-CIMO and by Project 02/SAICT/ 2016/23290- QCLASSE, funded by national funds through FCT/MCTES (PIDDAC).

