E519

Beetroot Juice fortified Stirred Type of Yogurt from Enzyme hydrolyzed milk – Antioxidant, Casein antigenicity and Color perspectives

Attila Csighy[1], Moh Moh Zin[1], Adrienn Tóth[2], Szilvia Bánvölgyi[1] , Krisztina Takács[3], András Koris[1], Arijit Nath[1]

1 - Department of Food Process Engineering, Institute of Food Science and Technology, Hungarian University of Agriculture and Life Sciences, Ménesi str. 44., H-1118 Budapest, Hungary

2 - Deptartment of Livestock and Food Preservation Technology, Institute of Food Science and Technology, Hungarian University of Agriculture and Life Sciences, Ménesi str. 43-45., H-1118 Budapest, Hungary

3 - Department of Nutrition Science, Institute of Food Science and Technology, Hungarian University of Agriculture and Life Sciences, Somlói str. 14-16., H-1118 Budapest, Hungary

Yogurt offers numerous nutritional importance, such as antioxidant capacity, anti-angiotensin activity, antibacterial activity, and many more. The main constituents of milk, such as proteins and lactose offer unique biological values; however, milk sensitive community often suffers with protein allergy and lactose intolerance. In this study, sequential protein hydrolysis by papain and yogurt starter culture fermentation were considered to prepare yogurt. Subsequently, prepared yogurt was supplemented with Beetroot (Beta vulgaris) peel aqueous extract, produced by microwave-assisted extraction. Effects of the time of extraction (1-5 min) and solid concentration (8-50 g/L) were studied at constant microwave power 100 W. Furthermore, effects of the concentrations of papain (0.008-0.016 g/L) were studied for the hydrolysis of milk protein. Papain hydrolysis was performed at temperature 50 °C for 10 min. After deactivation of catalytic activity of papain by 70 °C for 30 min, milk was considered for fermentation with yogurt starter culture at temperature 45 °C for 6 hours. Lactase was used at initial time of microbial fermentation. Effect of different concentrations of beetroot peel extract in yogurt was studied. Antigenicity of casein were reduced after application of papain and microbial fermentation. Antioxidant capacity in yogurt was increased after addition of beetroot peel extract.

E520

Whole cricket powder as a sustainable protein binder in pancake baking

V. Farkas[1], R. Zelkó[2], P. Gordon[3], Z. Kovács[4], B. Kállai-Szabó[1]

[1] Cornexi Food Ltd, Dorottya Str. 2, Cegléd 2700, Hungary

[2] University Pharmacy Department of Pharmacy Administration, Semmelweis University, Hungary

[3] Department of Electronics Technology, Budapest University of Technology and Economics, Hungary

[4] Department of Measurements and Process Control, Institute of Food Science and Techno-logy, Hungarian University of Agriculture and Life Sciences, Hungary

Insect protein has recently gained growing interest as an alternative protein source for human consumption, as it is seen as a sustainable protein source that is nutritionally similar to conventional livestock production. Edible insects are extremely rich in nutrients such as protein, fat, vitamins, and minerals; thus, human insect-eating (anthropo-entomophagy) is common in cultures in most parts of the world; thus, the EFSA approved several insects for human use. Our selected insect, the house cricket (Acheta domesticus), is easy and cost-effective to raise, making them an ideal alternative food to feed the world. In scientific projects, adding insect meal to food, replacing plant-based flours, significantly increased the protein content and the insoluble fraction of dietary fibre. Our study aimed to replace egg white by adding the same amount of protein as sustainable whole cricket flour in pancakes and to identify and assess the impact of cricket powder on pancake texture and sensory characteristics. The ready-to-use pancake mixture enriched with whole cricket flour showed higher viscosity but similar technological applicability. In addition, this mixture resulted in darker colors but a taste profile similar to the traditional egg-containing pancakes.