



**E449**

**Investigation of colour properties and rheological behaviour of an apple juice flavoured egg white-based milk substitute**

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Today's consumers are suffering from several food allergies and intolerances. One of the most important allergic food group is the dairy products. Whey protein allergy and lactose intolerance are the most common problems for European population. The replacement of dairy products with plant-based products are today well-known, but these products have worse sensorial and nutritional quality than dairy products. An appropriate solution may be the development of egg white based dairy replacement products. Egg white has a high nutritional value, as long sensorial attributes can easily modify. In our study the goal was to develop an egg white based milk replacement product with added functional properties. A cowmilk substitute was developed from egg white using enzymatic reactions. After flavouring (with freshly squeezed apple juice) the product was treated by HHP at 500 MPa, for 3 min. The rheological properties of this flavored substitute are investigated. The measurements were carried out with an Anton Paar MCR 92 rheometers investigating the shear stress of samples, using a CC27 system between 10 and 1000 1/s shear rate. Our results show that fruit juice addition led to a thinner texture, so a significant apparent viscosity decrease was observed compared to control, unflavored sample. Herschel-Bulkley model was well fitted to the flow curves of control and flavored samples ( $R^2=0,99$ ). Our results show that apple juice flavored cowmilk can be replaced with an egg white based drink, as long as the functional properties are enhanced. This development may allow a healthier opportunity to replace dairy products. Our research is supported by the project 2020-1.1.2-PIACI-KFI-2020-00027 and EFOP-3.6.3-VEKOP-16-2017-00005 projects we are very thankful for that.