

July 23-24, 2018
Rome, Italy

Stephanie Jeske et al., J Food Nutr Popul Health 2018, Volume 2
DOI: 10.21767/2577-0586-C2-005

PAST, PRESENT AND FUTURE: THE STRENGTH OF PLANT-BASED DAIRY SUBSTITUTES BASED ON GLUTEN-FREE RAW MATERIALS

Stephanie Jeske, Emanuele Zannini and Elke K Arendt

University College Cork, Ireland

Plant-based foods are gaining in popularity and the market is developing fast. This trend is based on several factors, like the change of lifestyle, interest in alternative diets and the increasing awareness of sustainable production of food and especially proteins. Plant-based dairy substitutes can serve as an option to traditional food products, meeting many of these interests. However, the market is in its infancy and needs to progress. A screening of 17 different commercial milk substitutes based on different cereals, nuts and legumes was performed. Half of the analyzed samples had low or no protein contents (<0.5%). An *in vitro* method was used to predict the glycaemic index, which ranged from 47 for bovine milk up to 100 for rice based samples. Most of the plant based milk substitutes were highly unstable with separation rates up to 54.39%/h. The market is likely to shift towards alternative plants to meet consumers' needs and desire for healthy, flavorful and intriguing products. The aspect of allergy free, like gluten-free products gain also in importance. Research studies are approaching the nutritional quality, such as improving the protein quality and glycaemic properties. In this regard, the influence of different commercial enzymes on protein properties and product quality in a quinoa based beverage was studied. The protein solubility

was improved up to 68.31%, which correlated highly with the degree of hydrolysis and surface hydrophobicity. The results of this study provide an in depth understanding of the effects of enzymes in a complex system of a plant based milk substitute and contribute to the development of protein rich products. Furthermore, the application of these products as functional ingredients or substitutes for dairy products like cheese and yoghurt are disseminated. However, there is still a need for much more diversified studies in order to overcome stability, textural, nutritional and sensory problems.

Biography

Stephanie Jeske has graduated with a Bachelor degree in Food Technology from University of Applied Science Bremerhaven in Germany. For carrying out her final thesis she came to University College Cork to work with Professor Elke Arendt, investigating strategies to improve protein extraction from quinoa flour. Captivated by this topic and scientific work, she decided to stay in Cork and started a PhD program under the supervision of Professor Elke Arendt in 2015. Her research focuses on innovative plant based dairy alternatives. She has published two papers on this topic.

Stephanie.Jeske@umail.ucc.ie