

MD.12.**Title**

Obtaining and stabilizing dyes, antioxidants and preservatives of plant origin for functional foods

Authors

Ghendov-Mosanu Aliona

Institution

Technical University of Moldova

Patent no.**Description****EN**

The problem of functional foods with biologically active substances (BAS) of natural origin is very welcome by the food industry, especially considering that excessive use of synthetic dyes in food is may induce harmful effects on the consumers health. Replacing synthetic pigments with substances of natural origin obtained from agro-food industry waste is a strategic problem, because unlike synthetic dyes, the natural pigments are fragile molecules sensitive to light and storage conditions. At present, the agro-food industry waste accounts for about half of the total waste. The smart biorefinery procedures may offer solutions to use of agro-industrial waste and will allow the manufacture of a wide range of natural dyes and antioxidants with various applications, including for the food industry. At the same time, antiradical and bacteriostatic activity of these extracts rich in polyphenols, carotenoids, vitamins, etc., is a promising source of alternative solutions for their use to replace certain food preservatives of synthetic origin. The extraction and isolation of BAS from plant resources aims to preserve their functionality in improve their bioaccessibility and bioavailability. The overall objective of this project is to develop processes for obtaining and stabilizing colorants, antioxidants and preservatives of vegetable origin from horticultural sources and agro-food industry waste and their implementation in the food industry; intelligent valorisation of agro-industrial waste by using “green extraction” techniques (eco-extraction with non-pollutant reagents; applying a pulsed electric field, ultrasound and microwave treatment); extension of the assortment of functional products from different fields of the food industry (bakery, pasta, confectionery, dairy products). The research results will contribute to the production of functional foods, able to lessen the impact of oxidative stress and nutritional allergies while helping to integrate the concept of health-generating food and to increase the commercial potential for the food industry.

Class no.