

ASSESSMENT OF UTILIZING ANNATTO SEEDS POWDER AS A NATURAL FOOD INGREDIENT FOR CHEDDAR CHEESE

Florina STOICA¹, Roxana Nicoleta RAȚU¹, Petru Marian CÂRLESCU¹, Ionuț Dumitru VELEȘCU¹, Sandu TALPĂ¹, Vlad Nicolae ARSENOAIA¹, Florin Daniel LIPȘA¹

e-mail: florina.stoica@uaiasi.ro

Abstract

Food products with desirable sensory qualities, safety, and nutrition are in high demand in industrialized countries. Annatto (*Bixa orellana L.*) is a small tree cultivated in tropical and subtropical America and is appreciated for the pigmented seeds that come from which the yellow-orange achiote or annatto natural food color is made. This study investigated the effect of the annatto seeds powder on the phytochemical and physicochemical properties as well as the textural and color of the value-added cheddar cheese. Two types of cheddar cheese were produced containing different concentrations of annatto seeds powder, 0.25 and 0.5% (ASP0.25, ASP0.5), and a control (ASP0). Based on the results, annatto seed powder appeared to show good antioxidant activity ($79.432 \pm 1.015\%$). The addition of annatto seed powder positively influenced the textural and color characteristics of the value-added cheese. The obtained samples highlighted the satisfactory content in phytochemicals. The sensory analysis showed that the addition of annatto seed powder had no detrimental effects on the cheese's general acceptance, the improved color being appreciated. Therefore, annatto seed powder might be a good source of natural antioxidants for the production of dairy products being a natural alternative to synthetic food coloring ingredients.

Key words: Annatto seeds, antioxidant activity, pigments, food ingredients, cheddar cheese