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Food safety appropriate and HMF decreased special spice blend mesir paste and innovative product mesir effervescent tablet: Detailed chemical analyses, bioavailability, nutrition label approval, shelf life stability and anticarcinogenic bioactive phenolics by HPLC-dad and LC-ESI-QTOFF-Mass spectrometry

Currently, The Potential Utilization Of The Bioactive Phenolic Major Components Has Been The Focus Of Attention Due To Their Consumption Imparts Health Benefits Containing Several Types Of Cancer, Reduced Risk Of Coronary Heart Problems. Dietary Supplements, Food Tablets And/Or Food Fortification Based On Food By-Product May Be Alternative For Above-Mentioned Healthy Constituents. Mesir Paste, Also Known As 'Mesir Maccun,' Is A Traditional Confectionery Product With Specific Flavor, Taste, Aroma, Taste, Colour And High Viscosity. Mesir Paste Contains 41 Types Of Spices And Medical Plants Including Different Plant Extracts With Sugar And The Health Beneficial Effects Have Been Reported For Hundreds Based On Some Documents Thousands Of Years Owing To Their Bioactive Effective Phenolic Compounds. But In Mesir Preparation, Blend Of Spices And Medicinal Plants Have Been Boiled With Sugar At High Temperature. Nowadays, It Is Known That 5-Hydroxy Methyl Furfural (Hmf) Formed During Thermal Decommission Of Sugars And Carbohydrates And It Is An Aldehyde And A Furan Compound [Namely As Is 5-(Hydroxyl Methyl)2-Furan Carboxaldehyde], This Formation Provide An Indication Of Overheating And Storage In Poor Conditions. Even Though, Hmf Is Not Yet Considered A Harmful Substance, The National Institute Of Environmental Heath Science Nominated Hmf For Testing Based On The Widespread Of Hmf In Daily Consumed Foods, Evidence For Carcinogenic Potential Of Other Members Of This Class And The Fact That Little Is Known About Hmf Toxicity. It Is Known That The Reported Toxicity Tests Are Mostly Confined To Mice And Rats. In This Research Workshop Content, We Found That Several Factors (Such As Temperature, Duration Of Heating Process, Storage Conditions, Ph And Floral Source) Influence Hmf Levels Of Mesir Paste. By Using Our Developed Manufacturing Methodology, Hmf Levels Was Decreased To 2.12-8.71 Mg/Kg (Ppm) From 158-196 Mg/Kg (Ppm) By Depending On Ottoman Traditional Manufacturing. Insomuch That, 30.55; 68.09; And 88.75 Ppm. Results Were Achieved By 15.Day, One Month And 2 Months Of Storage, Respectively (P<0.05). Based On Turkish Food Codex Sugar, Confectionery Products & Honey Communique, Max.level Of Hmf Must Be 40 Ppm In Final Products So It Is Seen That Great Data Was Obtained And It Was Determined The Storage Stability For Production Shelf Life. An Analytical Good Correlation Was Found With Good Performance In Terms Of Precision For The Method (P<0.05). In Mesir Paste, Subsequent To Fundamental Chemical Analysis (Sugar, Invert Sugar, Total Carbonhydrate, Total Protein, Total Fat, Total Ash And Total Fiber); The Avg.486 Mg Gallic Asid Equivalent Phenolics [Mg Gallic Asid Equivalent (Gae) Phenolic /100G], The Total Flavonoid Concentrations Were Avg.786 Mg Quercetin Equivalents (Qe) /100 G Paste Whereas The Ic50 Of The Methanolic Extracts Was Avg.1.196 Mg Paste/ML And The Results Showed That Sinapic Acid Was Most Active In The Dpph (Ic50 Value 0.0176 ± 0.002 Mg Paste/ML). Majorly Cinnamaldehyde, Shringic Acid, Sinapic Acid, Vanillic, Ferulic, Cafeic, Chlorogenic Acids, 4-Caffeoylquinic, 1,3-Caffeoylquinic Acid, 1,4-Caffeoylquinic, 1,5-Caffeoylquinic Acids, P-Hydroxybenzoic Acid, P-Coumaric Acid, Protocatechuic Acid, Coumarin, Piperine, Sinapin, A-Zingiberene 10-Gingerol, Curcumin, Cubebin, Kampferol, Quercetin, 3¢-O-Metyl Quercetin, Acacetin Phenolics, Lignan Glucoside Trachelosid Lignin Were Identified By Both Hplc-Dad And Lc-Esi-Qtoff-Mass Spectrometry As Qualitative And Quantitavely. Also Piperolein, Beta-Bisabolen, Öjenol, Methyl Öjenol, Öjenol Asetate,

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Mirisen, Beta-Karyofilen, *Alfa*-Pinen, Linalool, *Alfa*-Pinen, Campfore, *Alfa*-Cububen, *Alfa*-Kopaen, Trans-Anethol, Estragol, Anise Ketone, Anisic Acid, Geranial, Geraniol, 6-Shogaol, Zingeron, Miquelian Were Determined As Volatile Components By Gc-*Ms*. Scientific Evidence Shows That Some Dietary Supplements Are Beneficial For Overall Health And For Managing Some Health Conditions. By Utilizing Of 41 Spices And Medicinal Plants, Mesir Tablet Was Produced At Depark Technopark Spil Innova Llcas Industrial Health Innovative. We Discussed Chemical Characterization, Functional Properties, Their Unique Bioactive Features Of Mesir Effervecent Tablet And Covered Antioxidative, Anticarcinogenic Reports.

Biography

Ozlem Tokusoglu has completed her PhD at Ege University Engineering Faculty, Dept of Food Engineering at 2001. She is currently working as Associate Professor Dr faculty member in Celal Bayar University Engineering Faculty Department of Food Engineering. Ozlem Tokusoglu performed a visiting scholar at the Food Science and Nutrition Department /University of Florida, Gainesville-Florida-USA during 1999-2000 and as visiting professor at the School of Food Science, Washington State University, Pullman, Washington, USA during April-May 2010. She has published many papers in peer reviewed journals and serving as an editorial board member of selected journals. Ozlem Tokusoglu published the scientific edited two international book entitled Fruit and Cereal Bioactives: Chemistry, Sources and Applications and entitled Improved Food Quality with Novel Food Processing by CRC Press, Taylor & Francis, USA Publisher, and third book Food By-Product Based Functional Food Powders by CRC Press, too; Dr Tokusoglu also published three national books entitled Cacao and Chocolate Science and Technology, Special Fruit Olive: Chemistry, Quality and Technology and Frying Oils Science and Technology. She organized and/or administered as Conference Chair at many conferences and congress in various parts of USA and Europe.

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