Development of a vegetarian dietary product based on Greek salad synthesis and its benefits in health and wellness.

Georgios Zakynthinos\textsuperscript{1}, Theodoros Varzakas\textsuperscript{2}, Dimitrios Petsios\textsuperscript{3}, and Michalis Panagiotidis\textsuperscript{4}

\textsuperscript{1} Dept. of Food Technology, Biology and Technology Lab of Horticultural Crops, Higher Institute of Kalamata, Antikalamos 24100, Kalamata Greece
\textsuperscript{2} Dept. of Food Technology, Food Processing and Engineering Lab, Higher Institute of Kalamata, Antikalamos 24100, Kalamata, Greece.
\textsuperscript{3} Nutrition Institute Net "By Food" Kifisias 235, Kifisia 16541, Attiki, Greece
\textsuperscript{4} Dept. of Pathology, University of Ioannina, Medical School University 45110 Ioannina, Greece. mpanagiot@cc.uoi.gr

A powder form product is made from tomato, carrot, onion and oregano and is designed on the basis of their valuable nutrients which prove to be very beneficial for health and wellness. This product could be manufactured by extracts of tomato, carrot, onion and oregano in an amount of 50 g powder according to the following portion-formula: 20 g tomato, 20 g carrot, 9 g onion and 1 g oregano. The main ingredients are lycopene from tomato, a powerful antioxidant with protective effects against cardiovascular risk, beta-carotene from carrots and phenolic compounds from onions and substances with strong antioxidant activity against free radicals from oregano. It is known that tomato is the richest source of lycopene (3mg/100g tomatoes), which is a red pigment responsible for its color and belongs to the group of carotenoids. Lycopene consists of 80-90\% of tomato carotenoids. According to pharmacokinetic studies, lycopene is better absorbed from processed tomato sources or tomato products than from raw tomatoes Carrot is also rich in carotenoids. It contains significant amounts of alpha-and beta-carotene and vitamin. Moreover, onion is an excellent source of flavonols, anthocyanidines and polyphenols. The importance of the above mentioned vegetables in health has been recorded in a variety of scientific studies reporting on antioxidant, cardio-protective, gastrointestinal, antihypertensive, anti diabetic and intestinal microflora effects.

Beta-carotene and lycopene were measured by HPLC ORAC was measured by LSM. Nutritional compounds were measured by standard methodology. The total Oxygen Radical Absorbance/Antioxidant Capacity (ORAC) of above synthesis was determined to be 9255 umol TE/100g. Lycopene is estimated to be 12.5 mg/100 g. Proteins, fats, carbohydrates, dietary fiber, moisture and ash are estimated to be 5.4, 1.0, 72.8, 11.7, 5.4, 3.67 g/100g, respectively with an energy of 345 kcal. Beta-carotene is estimated to be 3.88 mg/100 g. Cantaxanthine (E161) and E160 were below the limit of quantification. Regarding nutritional elements these are estimated to be as follows. Iron is 8.7 mg/100 g, magnesium 88 mg/100 g, potassium 1.14 g/100 g and sodium 0.25 g/100 g.