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PhD Thesis Title:	Nutritional assessment of indigenous and cultivated edible plants in Eastern Crete: Physiology and cultivation methodology
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Abstract:	<p>Introduction:</p> <p>Nutrition is the most significant self-regulation process of the human organism and, consequently, of its health. The occurrence of chronic diseases in Western lifestyles is continuously increasing. The development of dietary habits that contribute to an improved quality of life for individuals is deemed as the sought-after solution. In 1960, based on the Cretan diet, health and nutrition scientists established the Mediterranean diet as a model. The growing interest of individuals in well-being, food safety, and the quality of food and nutrition has led to a revival and search for food items that were consumed within narrow geographical boundaries just a few decades ago. One of the characteristics of the Cretan Mediterranean diet is the high consumption of indigenous edible greens, legumes, and fresh vegetables, either in a cooked or dried form, which provide the human organism with valuable nutrients as well as numerous bioactive compounds (secondary metabolites). In recent years, particular attention has been given to secondary metabolites, which appear to positively influence human metabolism and health. The indigenous edible plants of Crete are part of its unique intangible cultural heritage and could contribute to the food and pharmaceutical industries. The market availability of wild indigenous edible plants and vegetables confirms the existence of a specific consumer community that recognizes and appreciates their nutritional value. However, uncontrolled and excessive harvesting for commercial purposes may lead to the extinction of these species.</p> <p>Purpose:</p> <p>The purpose of this study is to contribute to the sustainability of the Cretan Mediterranean dietary pattern through the adequacy and utilization of produced products, as well as its adoption by more individuals both within and outside Crete. The objectives of the research will be achieved through the completion of the following goals: a) comparison of physiological parameters between cultivated and indigenous edible species; b) cultivation of indigenous edible plants under controlled conditions (using sustainable techniques); c) isolation of bioactive compounds from selected indigenous plant species; d) comparative evaluation of cultivated and indigenous edible species in relation to their nutritional value.</p>

	<p>Methodology and Sample:</p> <p>The selection of indigenous edible plants will focus on species that have been botanically identified and that grow in Eastern Crete. The experimental design will encompass the following axes: i) identification and delineation of indigenous plants; ii) seed collection from selected plant species; iii) transplantation according to agricultural experimental principles; iv) measurement of photosynthetic parameters using non-invasive methods such as SPAD, fluorescence, Da meter, and chroma meter; v) measurement of secondary metabolites utilizing the following determination methods: Thin Layer Chromatography (T.L.C.), High-Performance Liquid Chromatography (HPLC), as well as dual-beam spectroscopic methods for the identification of isolated compounds and total phenolic.</p> <p>Thesis Contribution:</p> <p>The utilization of this doctoral dissertation is multifaceted and structured at distinct levels. It enhances the nutritional value of the species in the consumers' consciousness, promotes the production of innovative primary and secondary products, creates cultivation protocols, and enables producers to incorporate them into their cultivation choices. Furthermore, it protects indigenous plants populations and their genetic reservoirs, as their cultivation will reduce pressure on natural populations and lessen environmental burden</p>
Keywords:	indigenous edible plants, Cretan Mediterranean diet, Secondary metabolites, Nutritional value, Cultivation protocols