



The Olive

fruit of the gods



FONDO
EDITORIAL

The Olive

fruit of the gods



UNIVERSIDAD
SAN IGNACIO
DE LOYOLA

The Olive fruit of the gods

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Foreword

Some time ago, the United Nations adopted the 2030 Agenda for Sustainable Development. This was the greatest challenge ever proposed by man to eradicate poverty and hunger, achieve food security and guarantee a healthy life and quality education for all humanity.

The new concept of sustainable development satisfies the needs of the present without compromising the capacity of future generations to satisfy theirs. In order to achieve the proposed goals, it is essential to harmonize and interconnect three core elements: economic growth, social inclusion and environmental protection for the generations of both today and tomorrow.

In this context, since its foundation, Universidad San Ignacio de Loyola (USIL) has always advocated and continues to advocate the principle of linking the world of academia to human satisfaction. Using a multi-disciplinary approach, we have been progressively adding different fields of study that are inherently associated with the Life Sciences, seeking to creating a value chain

comprised of engineering degrees in the Agro and Environmental Industries, Food Industries, Gastronomy, Nutrition, as well as the latest degree program in Preventive Medicine, all of them aimed at providing well-being to Peruvian people.

Herein lies the importance of this new work of USIL, a product of interdisciplinary research on the olive as an agricultural crop in Peru, more specifically in Tacna, with implications that go beyond the academic world, involving both the public and private sectors.

The University's enthusiastic vocation to research the olive industry in Tacna has been a remarkable example of an alliance between the Central Government through *Promperu*, the Provincial Municipality of Tacna and the NGO *Pro Olivo* to meet common objectives for the benefit of the region's economic, social and sustainable development and for thousands of farm families who produce the "sacred tree".

This unpublished study offers value-added material because, in addition to its discussion of the new quality products and services in today's olive industry, it is the engine start-up for a new tourism strategy that Promperu has already begun developing with the launch of the promotional campaign entitled "Peru, Mucho Gusto - Tacna".

The campaign seeks to position the Department of Tacna, as a guiding thread of tourism and gastronomy routes in the southern region of Peru, inviting travelers to explore and discover the roots of the flavors and culinary diversity of this destination, starting with its agricultural and industrial products that nourish healthy cooking and the dinner tables of the people in Tacna.

In the olive culture, there is nothing more remarkable differentiating the numerous varieties of this "golden liquid" than through taste sessions with your most epicurean palate. This unique sensorial experience is completed with our delicious and healthy Andean gastronomy.

Agroindustry and tourism are two sustainable paths that offer many opportunities for the Department of Tacna over the short, medium and long-term. This explains why this valuable document aims equally at promoting research and innovation in universities, development of industrial and productive activity on rural farmland, and to improving services so that these economic sectors become increasingly more competitive and able to create greater wealth and jobs in the region.

Moreover, the new strategy for olives, olive oil and the olive tree groves planted in many corners of this region, besides bringing value-added concepts and strengthening regional tourism and agroindustry, it has given a boost to the clinical research and health services revolving around this highly admired plant. For all of the reasons mentioned above, I am certain that this publication will be an important reference book about this natural wonder in Tacna and Peru.



**Raúl Diez
Canseco Terry**

Founding President
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Prologue

The health benefits contributed by olive oil have been well documented since antiquity. Hippocrates, Galeno and Dioscorides wrote papers on the subject. Over time, scientific research has supported the beliefs and applications that emerged from Mediterranean cultures. In countries like Spain, Italy and Greece, characterized for the use of olive oil in their diets and where it is consumed daily and in relatively elevated amounts, the occurrence of chronic illness is among the lowest in the world and life expectancy, among the highest. As a result, the Mediterranean Diet has acquired importance and interest as a healthy model to follow.

Even while numerous studies have labeled it unhealthy because of its high calorie count (the same as any fat), what appears certain is that these populations live longer and suffer less heart disease. Researchers point to the composition of olive oil as the primary fuel for living a healthy and longer life.

In this regard, the World Health Organization (WHO), in 2015 rated

the health of the people living in these regions as “extremely good”, based on most of the parameters analyzed. WHO experts determined the consumption of olive oil to be one of the primary causes of those results.

Olive oil, more specifically extra virgin olive oil has been recognized as a healthy food that has multiple positive effects on human health. This mainly is due to its high content of monounsaturated fatty acids (oleic acid), its antioxidant components (vitamin E and phenolic compounds) and hypercholesterolemic substances (phytosterols among others). Studies have demonstrated that high polyphenol content is associated with higher HDL levels (good cholesterol).

When ingested, olive oil typically establishes a composition of fatty acids in adipose tissue with a particular oleic acid content that favors the development of an appropriate fatty acid profile in body cells.

Standing out among the main reasons for including virgin olive oil in our daily diet is the primary

prevention of cardiovascular diseases. According to experts, the addition of dried fruits and olive oil to our daily meals reduces abdominal obesity and blood glucose levels, two indicators of metabolic syndrome that consists of alterations in the metabolism, such as high blood pressure, low HDL cholesterol levels, high triglycerides levels, glycaemia and central obesity in the circumference of the waist.

Other experts claim that olive brine is useful in treating pressure ulcers, particularly among the elderly and/or the handicapped. It also prevents gastroduodenal disorders because olive oil coats areas of the stomach and duodenal region thus preventing the formation of ulcers due to its content of fat soluble vitamins E and A.

Finally, olive oil is an ally against breast cancer. Researchers from universities in Granada and Malaga Spain have used olive oil to produce nanocapsules that have proven effective against battling cells affected by this form of cancer and reduce damage to the patients' healthy cells. These microscopic capsules act as transportation vehicles that administer drugs to

tumor cell lines and are selective by specifically targeting cancer cells.

Olive leaves have also been used medicinally since ancient times. Its therapeutic use is believed to have begun in Ancient Egypt. In modern times, the olive leaf has become popular because of its apparent benefits to the body's immune and cardiovascular systems. This fact caught the attention of researchers whose studies conclude that the majority of these virtues might be attributed to oleuropein, a substance that gives olives their slightly bitter taste. Olive leaf extract is also a source of abundant oleuropein, removing the need to consume a large dose of oil.

Loyal to its ongoing commitment to promote a healthy, sustainable and safe lifestyle with flavor, based on a nutritious diet and the ancestral medicine inherited from the great civilizations that came before us and who now receiving scientific recognition, Universidad San Ignacio de Loyola publishes this new work with the strong conviction that it will contribute to the knowledge base about one of the most phenomenal plants that nature has provided for the benefit of humanity.



**Luciana de la Fuente
de Diez Canseco**

Executive President
Universidad San Ignacio
de Loyola





Introduction

The book entitled “*THE OLIVE, fruit of the gods*” is the product of a comprehensive study of the olive growing industry in Peru, and particularly in the Department of Tacna. The following pages will provide a delightful description of the path that this natural fruit has taken through the course of history of humanity to the extent that it became an essential ingredient in the daily diets of so many people.

Not surprisingly, European countries like Greece, Italy and Spain have adopted it as one of their favorite ingredients, particularly olive oil, which their inhabitants consume daily and in greater amounts than other countries. Accordingly, it has come to form part of the Mediterranean diet which, among other attributes, reduces the occurrence of chronic illnesses.

Chapter I describes the history of the Department of Tacna, its socio-cultural characteristics, its traditions, its gastronomy and how its incursion into growing olives has made it the largest producer of olives and olive oil in Peru.

Chapter II discusses the olive’s arrival in America, the adaptation of the first olive crops in our country and its expansion during the Vice Royalty and the Republican eras. It also makes reference to the abundant olive groves cultivated in Tacna, olive classification, commercial varieties, and production, along with a description of Olive-Route in Tacna, the “Heroic City”. All of this serves to teach us more about community populations and other places of interest revolving around the culture of the olive and its industries.

Chapter III discusses aspects of the botanical characteristics of this tree, olive oil and olives, while Chapter IV gives us a detailed description of the olive's chemical composition and the healthy properties of the product and its by-products, olive leaves, olive oil and olives. The discussion provides numerous facts about nutrition that demonstrate its value as a food item – providing data on its energy content and macro and micronutrients, followed by remarks on the Declaration of Jaen (Spain) which laid the scientific knowledge base about the benefits of this essential food of the Mediterranean Diet.

The second section of the book offers a collection of recipes that showcase olives and olive oil as star ingredients in combination with other regional native food products such potatoes, tri-color quinoa, golden berries,

tumbo and camu-camu. Recipes prepared by chefs from College of Hospitality Management, Tourism Administration and Gastronomy, together with researchers from the Academic Program in Nutrition at the College of Health Sciences at USIL, include a data on the protein and energy values of these dishes.

Thus, with this new publication presented today, Universidad San Ignacio de Loyola renews its loyal commitment to research in agroindustry, health and optimum nutrition for the benefit of people in Peru and throughout the world.



Teresa Blanco
de Alvarado-Ortiz

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