

Mediterranean diet UNESCO intangible cultural heritage of humanity - Guidelines for promoting a lifestyle and cultural approach for sustainable development

Dieta Mediterranea patrimonio immateriale UNESCO - Linee guida per la promozione di uno stile di vita e di una cultura favorevole allo sviluppo sostenibile

This document identifies the key elements for the promotion of a culture which supports sustainable development through the lifestyles, the wealth of knowledge and the local traditions associated with the practices and representations of the Mediterranean Diet.

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FOREWORD

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INTRODUCTION

UNESCO has acknowledged the Mediterranean Diet as an element of intangible cultural heritage of humanity, so enabling this balanced example of bio-environmental and cultural exchanges and interconnections that have generated the Mediterranean lifestyle to be recognized as a global excellence throughout history. The Mediterranean Diet is a combination of skills, knowledge, practices and traditions that range from the landscape to the table, including the growing, harvesting, fishing, conservation, processing, preparation and consumption of food. It is a universal value as a lifestyle and not as a rule, and it is founded on the mindset and the awareness about human existence and lifestyle in harmony with the territory and the environment shared by various Countries of the Mediterranean area: Cyprus, Croatia, Greece, Italy, Morocco, Portugal and Spain.

The Mediterranean Diet is built on the respect for the territory and biodiversity, and ensures the conservation and development of the traditional activities and trades connected to fishing and agriculture in the communities of the Mediterranean. It encourages the values of hospitality, conviviality, intellectual dialog and creativity, and a life model founded on respect for diversity. The importance of the Mediterranean Diet for the rest of the world is not only based on the unique features of foods and their nutritional values, but also on a balanced combination of them, and on the philosophy of sustainability which is the fundamental element of the Diet. It is a sustainable model of wellbeing that manifests itself in the form of various unique local peculiarities. In synthesis, a model of “sustainable diet”, that is, a diet with a low environmental impact that contributes to food and nutrition security, and to a healthy life for our present and future generations.

The term “Diet” comes from the Greek phrase meaning “life style”, that is a set of practices, representations, expressions, knowledge, abilities, and cultural spheres with which, over the centuries, the populations of the Mediterranean have created and recreated around their eating habits a synthesis of their cultural environment, social organization, and mythical and religious universe. It is not therefore only a diet in terms of food but it also represents a lifestyle geared both to pursue human good health, physical and mental wellbeing as well as that of the territory, the environment, its beauty and salubrity. To sum up, the Mediterranean Diet is built on an intrinsic principle of environmental, economic, social and cultural sustainability - enabling it to pass on health, wisdom and culture to future generations.

Originally proposed by Ancel and Margaret Keys in a well-known book named “How to eat well and stay well: the Mediterranean way”, published in 1975, by “Mediterranean Diet” the authors mean the food habits (and related recipes) of the popular and middle class of the European Mediterranean coast and, therefore, southern Spain, France, Italy and Greece, including the islands. Gradually, following its recognition by UNESCO in 2010, with reference to the Convention for the protection of the intangible Cultural heritage in 2003, other Countries, also from the African coast of the Mediterranean, were added.

The Mediterranean Diet is a paradigm which has been continuously yet variably present over time and space, mainly composed by olive oil, cereals, fresh fruit or dried fruits and vegetables, a moderate quantity of fish, dairy products and meat and many condiments and spices, accompanied

by wine or herbal teas, in accordance with the traditions of each community¹.

The products used to prepare the recipes of the Mediterranean Diet are mainly sourced from plants, coming from a sustainable agro-food production and therefore compatible with the principles of Nutritional Ecology aiming at combining the territory protection with that of all forms of life that inhabit it, including human being. Indeed, even in public opinion, the awareness that our health cannot be separated from the protection of territory is increasingly becoming more widespread, and this is something that admirably occurs in the Cilento area, not by chance, deemed to be the emblematic community of the Mediterranean Diet as recognized by UNESCO, and home to many centenarians in good health. On the other hand, now there is also irrefutable evidence to support the notion that uncontrolled urbanization, an inevitable consequence with a rapidly increasing world population currently exceeding a total of 7 billion people, favours the dissemination and therefore the epidemic of chronic, non-contagious illnesses, such as diabetes, obesity, cardiovascular and respiratory illnesses and some neoplasms. The age of human growth and development, from as early as primary school age, is not free, for example, from the risk of obesity, as recently demonstrated in Campania (a Southern Italy region), where child obesity is mainly present in highly urbanized areas rather than in areas with a more balanced environment.

The Holy Father, Pope Francis, in his encyclical “*Laudato Si*”, urges people to carefully think about the state of our common home, the Earth, and encourages to become aware of the damage caused by some senseless models of development which have produced pollution and climate changes. Pope Francis calls upon people to “*cultivate and preserve*”, as written in Genesis (2,15), asking for, as in the words of Carlo Petrini, “*a revolutionary commitment for the future*”². And it is with this principle of “*cultivating and preserving*” that we are introduced to the definition of “*integral ecology*” as an epochal value designed to change the prevailing paradigm and lifestyle spread all over the planet.

The Mediterranean Diet points out a healthy lifestyle and promotes an alternative paradigm of consumption: “*degrowth for those who objectively have too much and sobriety as a universal value and as everybody’s duty*”. Therefore the Mediterranean Diet is also essential in relation to the “*culture of waste*”, that is, for consumerism expressed in all forms, and not only with regard to food.

In response to the dramatic situation of hunger and malnutrition in the world, “*integral ecology*” and a new lifestyle may find an ally in the principles of the Mediterranean Diet, which reinforce and motivate studies aiming at a set of rules that gathers shared provisions.

A further consideration is provided by Agenda 2030 for Sustainable Development, a plan of action for people, planet and prosperity, signed in September 2015 by the governments of the 193 UN Member States. The Agenda places human wellbeing and protection of the environment at the core of global development. The Agenda is divided into 17 Sustainable Development Goals, broken down into 169 detailed targets which have, at their second clause, the goal of improving food, sustainable agriculture, food security and at their third clause, that of ensuring a healthy lifestyle and promoting the protection of health in people of all ages.

¹ Definition taken from the website UNESCO Representative List of the Intangible Cultural Heritage of Humanity, 2010, www.unesco.org - <http://www.unesco.it/cni/index.php/archivio-news/174-la-dieta-mediterranea-e-patrimonio-immateriale-dell'umanita>

² Preface to the Encyclical “*Laudato Si*” by Carlo Petrini, Chairman and founder of Slow Food.

It is clear how much the Mediterranean Diet has anticipated these principles, starting from the consideration of the “quality of life”, and focusing on human beings and their lifestyle, and identifying the “*indicators*” applied in several Countries of the Mediterranean area.

The debates on these themes, addressed by Milan World Expo 2015 “*Feeding the Planet. Energy for Life*” and by the *Milan Charter*, which declares that food is a universal right, make this UNI/PdR a useful tool that can be used for spreading awareness of the Mediterranean Diet.

Following the acknowledgment of the Mediterranean Diet by UNESCO, the Campania Region passed Regional Law no. 6 of 30 March 2012, “Recognition of the Mediterranean Diet” with the objective of promoting the Mediterranean Diet by increasing its visibility and the intercultural dialog on regional and international levels and preparing a series of measures geared to facilitate this promotion. In the meantime, it established the regional Observatory for the Mediterranean Diet, which has proposed these guidelines, as promoter, together with Promos Ricerche and the CNR (Italian National Research Council). The Observatory was assigned the duties of providing consultancy and making recommendations about, as well as monitoring, the policies for promoting and sustaining a long-lasting model of development centered around the Mediterranean Diet.

Thanks to its properties and adaptability to suit all lifestyles, today the Mediterranean Diet is still the point of reference of all Guidelines for a healthy nutrition as proposed by Countries of each continent (from the Americas, to Asia and Australia) and international scientific institutes. This principle has become a reference point due to the introduction of the international Declaration regarding the Mediterranean Diet into the Declaration on the Nutritional Rights of Man promoted by the FAO in Barcelona.

The publishing of this UNI/PdR is to be considered as the most suitable way of performing a preliminary evaluation and definition of the main Mediterranean Diet principles and the procedures for its dissemination, by launching a process that includes the operational involvement of appropriate multi-disciplinary skills.

1 SCOPE

This UNI/PdR identifies the key elements for the promotion of a culture which supports a sustainable development through the lifestyles, wealth of knowledge and local traditions associated with the practices and representations of the Mediterranean Diet.

The Mediterranean Diet involves intangible values which can be divided into the following macro-themes, identifiable with the values of sustainable diets:

- food security, safety and health, related to nutrition, the prevention of social illnesses and the agro-food product quality;
- environment and landscape protection, related to sustainability in the use of resources, the protection of territory, biodiversity and the ecosystems;
- social and cultural, related to conviviality, the culture of the table, the traditions and habits of a territory, and to the lifestyles;
- economic, related to the affordability of products for consumers.

NOTE The values for inclusion in the UNESCO Representative List of Intangible Cultural Heritage of Humanity are provided in the “UNESCO CRITERIA FOR INCLUSION IN THE REPRESENTATIVE LIST OF THE INTANGIBLE CULTURAL HERITAGE OF HUMANITY (2008)”, according to which it is affirmed that:

- Criterion 1 — The element constitutes intangible cultural heritage as defined in Article 2 of the Convention³;
- Criterion 2 — Registration of the element will contribute to ensuring the visibility and awareness of the significance of the intangible cultural heritage and to encouraging dialog, thus reflecting cultural diversity worldwide and testifying to human creativity;
- Criterion 3 — Safeguarding measures are elaborated to protect and promote the element;
- Criterion 4 — The element has been nominated following the widest possible participation of the community, group or, if applicable, individuals concerned and with their free, prior and informed consent;
- Criterion 5 — The element is included in an inventory of the intangible cultural heritage present in the territory(ies) of the submitting State(s) Party(ies), as defined in Article 11 and Article 12 of the Convention.

2 NORMATIVE REFERENCES

This UNI/PdR makes reference, by dated and undated references, to provisions contained in other publications. These normative references are cited at the appropriate points in the text and listed below. For dated references, subsequent amendments or revisions made to any of these publications apply only when cited in the present document as update or review. For undated references, the latest edition of the referenced publication applies.

³ UNESCO (2003), Convention for the Safeguarding of the Intangible Cultural Heritage. Paris.

European Landscape Convention, adopted by the Committee of Ministers of the Council of Europe on 19 July 2000 and opened for signature by its Member States in Florence on 20 October 2000

UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage adopted unanimously on October 17th 2003 during the 32nd session of the General Conference held in Paris.

NOTE This Convention has been ratified by Italy with Law No. 167 of 27 September 2007.

Council of Europe Framework Convention on the Value of Cultural Heritage for Society Faro, 27 October 2005 - Treaty open for signature by the member States and for accession by the European Union and by the non-member States. Entry into Force on 1 June 2010.

Disegni di legge N. 313 e 926 in discussione presso la 9a Commissione agricoltura del Senato della Repubblica per la valorizzazione e la promozione della Dieta Mediterranea

Regione Campania, legge Regionale n.6 del 30 marzo 2012, Riconoscimento della Dieta Mediterranea

Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety

Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs

Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin

Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption

Regulation (EC) No 882/2004 of European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.

Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs

Commission Regulation (EC) No 2074/2005 of 5 December 2005 laying down implementing measures for certain products under Regulation (EC) No 853/2004 of the European Parliament and of the Council and for the organisation of official controls under Regulation (EC) No 854/2004 of the European Parliament and of the Council and Regulation (EC) No 882/2004 of the European Parliament and of the Council, derogating from Regulation (EC) No 852/2004 of the European Parliament and of the Council and amending Regulations (EC) No 853/2004 and (EC) No 854/2004

Commission Regulation (EC) No 2075/2005 of 5 December 2005 laying down specific rules on official controls for *Trichinella* in meat

Commission Regulation (EC) No 2076/2005 of 5 December 2005 laying down transitional arrangements for the implementation of Regulations (EC) No 853/2004, (EC) No 854/2004 and (EC) No 882/2004 of the European Parliament and of the Council and amending Regulations (EC) No 853/2004 and (EC) No 854/2004

UNI EN ISO 22000 Food safety management systems - Requirements for any organization in the food chain

UNI EN ISO 22005 Traceability in the feed and food chain - General principles and basic requirements for system design and implementation

UNI ISO 26000 Guidance on social responsibility

UNI/PdR 18 Social responsibility in organizations - Guidance to the application of UNI ISO 26000

3 TERMS AND DEFINITIONS

For the purpose of this document, the following terms and definitions apply:

3.1 Mediterranean Diet: Set of traditional practices, knowledge and skills that range from landscape to nutrition, including the growing, harvesting, fishing, conservation, processing, preparation and, in particular, the consumption of food characterized by a nutritional model which has remained constant through time and space, handed down from generation to generation, and constitutes a sense of belonging and continuity for the populations involved.

NOTE 1 Definition taken from Italian Law Decree 313 Provisions for the enhancement and promotion of the *Mediterranean Diet*.

NOTE 2 The *Mediterranean Diet* is a sustainable model of diet.

3.2 sustainable diet: A diet with a low environmental impact which contributes to food and nutritional security, and to a healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and the eco-systems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy profile; while optimizing natural and human resources.

NOTE Definition taken from FAO, International Scientific symposium “Biodiversity and Sustainable diets: United Against Hunger”, 2010, 2010.

3.3 sustainable development: Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

NOTE 1 Sustainable development is about integrating the goals of a high quality of life, health and prosperity with social justice and maintaining the earth's capacity to support life in all its diversity. These social, economic and environmental goals are interdependent and on and mutually reinforcing. Sustainable development can be treated as a way of expressing the broader expectations of society as a whole.

NOTE 2 Definition taken from UNI ISO 26000:2010, 2.23.

4 PRINCIPLES

This UNI/PdR provides guidelines which can support all involved parties in promoting the Mediterranean Diet and suggests the procedures which can be implemented, through actions and activities to safeguard the intangible values intrinsic to the Mediterranean Diet paradigm and hand them down to future generations over time.

The first part of this document gives a summary of the main principles of the Mediterranean Diet, dealing with the themes of its historical and symbolic features, the intangible features of the identitarian culture and those related to the environment and the landscape intrinsic to the Mediterranean Diet. Subsequently the following issues are examined in depth: those regarding food and nutritional sciences (see clause 5.6), medical and scientific (see clause 5.7); issues related to food quality and safety (see clause 5.8) and traceability/trackability (see clause 5.9). Operational indications are also provided for the actions that the various interested parties of the food chain and those concerned in the promotion of the Mediterranean Diet should implement to safeguard it (see clause 6).

In order to promote the Mediterranean Diet, this UNI/PdR outline actions, defined accordingly to the different parties in the food chain as identified at clause 6, that can be used to preserve the lifestyle model represented by the Mediterranean Diet. The combination of values/subjects in the food chain is reported in Annex A in the form of a table showing who should be doing what.

Annex B provides product sheet forms with a set of information related to the food products characterizing the Mediterranean Diet: pasta, cereals, extra virgin olive oil, wine, fruit and vegetables.

5 KNOWLEDGE AND PROTECTION OF THE MEDITERRANEAN DIET

5.1 GENERAL

*“The Mediterranean diet constitutes a set of skills, knowledge, practices and traditions ranging from the landscape to the table, including the crops, harvesting, fishing, conservation, processing, preparation and, particularly, consumption of food. The Mediterranean diet is characterized by a nutritional model that has remained constant over time and space, consisting mainly of olive oil, cereals, fresh or dried fruit and vegetables, a moderate amount of fish, dairy and meat, and many condiments and spices, all accompanied by wine or infusions, always respecting beliefs of each community. However, the Mediterranean diet (from the Greek *diaita*, or way of life) encompasses more than just food. It promotes social interaction, since communal meals are the cornerstone of social customs and festive events. It has given rise to a considerable body of knowledge, songs, maxims, tales and legends. The system is rooted in respect for the territory and biodiversity, and ensures the conservation and development of traditional activities and crafts linked to fishing and farming in the Mediterranean communities which Soria in Spain, Koroni in Greece, Cilento in Italy and Chefchaouen in Morocco are examples. Women play a particularly vital role in the transmission of expertise, as well as knowledge of rituals, traditional gestures and celebrations, and the safeguarding of techniques”.*

With this definition, the Intergovernmental Committee for the Safeguarding of the Intangible Cultural Heritage of 2003 registered the Mediterranean Diet in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity on 16 November 2010, in Nairobi,

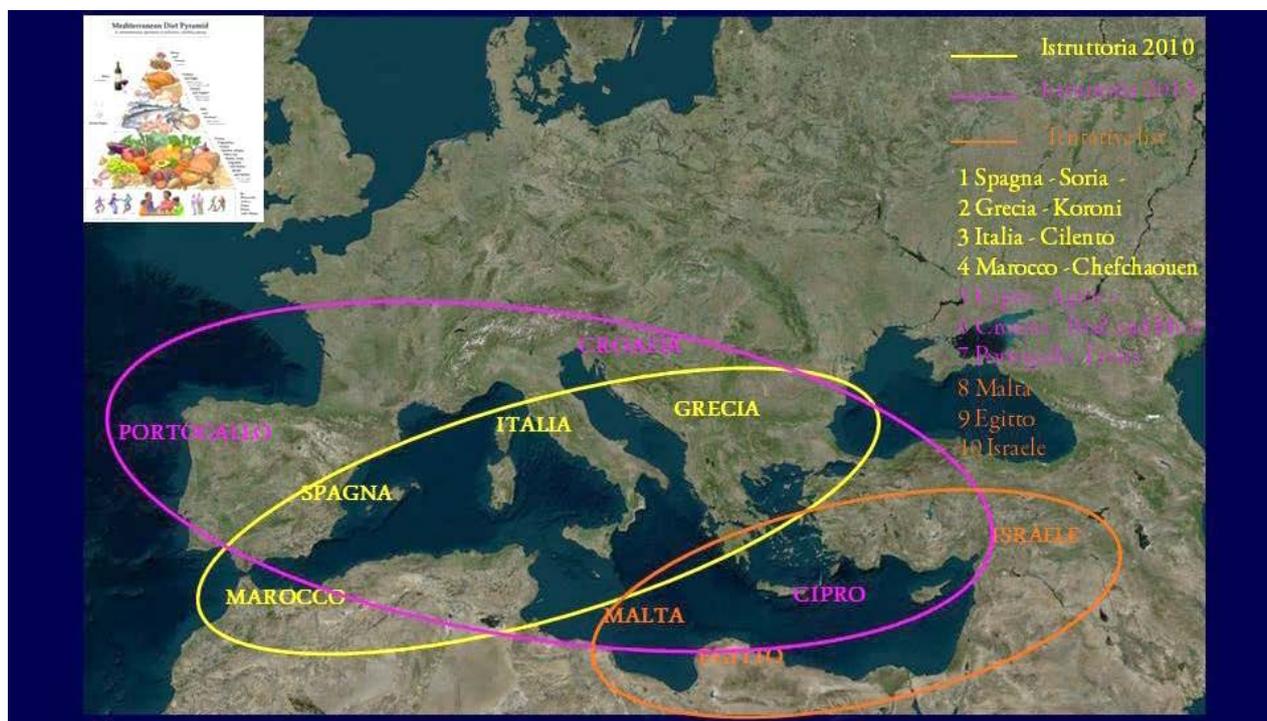


Figure 1 – The Mediterranean area and the Mediterranean Diet

The Mediterranean Diet is an expression of the lifestyle developed over time by certain populations inhabiting the (mainly coastal) areas overlooking the Mediterranean Sea and in the temperate regions of Portugal. It is a nutritional model in which the food products preserve their strong characteristic identity. In the Mediterranean Diet, a food product is not only a food but also the manifestation of a tradition and of the culture of the community that produces it.

In this context, the UNESCO Convention on intangible cultural heritage, signed in Paris in 2003 and ratified by Italy with Law no. 167, dated 27 September 2007, provided an opportunity to reaffirm the cultural identity of the traditional agro-food products linked to the agriculture and the diet of the populations in the Mediterranean area.

Indeed, the above-mentioned Convention also recognized the cultural value of those traditions, rituals, events and festivals that express the identity of a community. Based on the list indicated by article 2, par. 2 of the Convention, the intangible heritage can be identified in 5 sectors (oral traditions and expressions including language as a vehicle of intangible cultural heritage; the performing arts; social practices, rituals and festive events; knowledge and practices concerning nature and the universe; traditional craftsmanship) which are not, however, comprehensive, not only due to the difficulty of assigning precise classifications and predefined orders to the notion of culture, but also because of the intersectorial character if some oral traditions, such as in the case of food practices, which intersect with social relations and those of meanings that are collectively shared. In this way, the 2003 Convention provided a new concept of “culture”, not only related to its material dimension (the monument, the church, the painting, etc.), but also to all the intangible aspects and values that are handed down from generation to generation.

The recognition of the Mediterranean Diet by UNESCO not only refers to the gastronomic part closely linked to the products used in the diet, in the strict sense of a food diet, but also to the wider concept that concerns the culture of life and the traditional social and food practices of the populations in the Mediterranean.

The quality of the Mediterranean Diet, renowned since antiquity and therefore exported more or less everywhere in the Mediterranean area, also has its roots deeply planted in the thought of the Schola Medica Salernitana, which recommended the protection of health, above all by proposing actions based on prevention, on the prime importance of achieving psychological and physical harmony and on the diet as a rule for life. This has also all been clearly proven from the scientific point of view. However, we should emphasize that the modern development of the concept of Mediterranean Diet was launched in none other than the emblematic Italian community of the Cilento area where, starting from the second half of the 20th century, studies by scientist and nutritionist Ancel B. Keys revealed the qualities and values of the ultimate identity-linked cultural element and all the peoples of the Mediterranean which has been around for thousands of years, and namely the Mediterranean Diet.

5.2 HISTORICAL AND SYMBOLIC DIMENSIONS OF THE MEDITERRANEAN DIET

The association between the modern term “Mediterranean” as a historically named, and therefore recognized and defined geopolitical area, and the word “diet” has a rather recent history. The first references to the existence of a cuisine of the lands of the Mediterranean appeared in the mid-1900s, proposed by those who had experienced the area’s food customs and tried them first-hand, having travelled in some of the Countries of the Mediterranean.

Specifically, an early reference to “Mediterranean foods” can be found in a recipe book, *A book of Mediterranean Food*, written by Elizabeth David, published in 1950 and then republished several times until the present day. Far from intending to provide a single, artificial and unchanging image of the gastronomic customs of countries such as Greece, Cyprus, Italy, Egypt, Syria, Spain etc. in the second edition of his book published in 1965, which was reviewed and extended, David warns the reader that in the lands overlooking the Mediterranean, as occurs all over the world, the cuisine is constantly undergoing a process of transformation. Indeed, the dishes of the tradition that she had described fifteen years previously had undergone changes, adapting themselves to new techniques, encompassing other and new ingredients “as the result of modern cultivation, transportation, conservation and storage methods”.

This is a wise observation that preceded the research carried out by Ancel and Margaret Keys and which was perhaps more in line with the ideas of French historian Fernand Braudel, who in those same years had launched the first copious studies on the history of the Mediterranean, culminating in a first founding essay, *Civilizations and empires of the Mediterranean in the age of Phillip II* (1949). In a more recent work, *The Mediterranean. The space, the history, the men and the traditions* (1985), by wondering what the Mediterranean was, Braudel sought a synthesis, representing it as “an ancient crossroads” where everything coalesces, complicating and enriching its history. This “everything” referred to by Braudel is: “working animals, vehicles, goods, ships, ideas, religions, ways of life”.

The most significant sense lies indeed in the term “crossroads”: the Mediterranean as a space where the confluence of peoples, techniques, ideas, practices, goods and foods, and therefore of plants and animals useful for human survival, coming from all parts of the globe, have assumed the

dynamic dimension of development and constant experimentation based on each population's abilities to assimilate and manifest. In order to effectively convey this representation of the Mediterranean area, Braudel resorts to a narrative expedient whose protagonists take the form of the plants that characterize the Mediterranean countryside: "With the exception of the olive tree, the vines and wheat - the three native species that appeared early in the place- almost all of them were born far away from the sea. If Herodotus, the father of history, who had lived in the 5th century B.C., were to return and blend in with the tourists of today, he would encounter one surprise after another [...]. He does not remember ever in his life having seen those golden fruits among the dark green leaves of certain bushes - orange, lemon and mandarin plants. Obvious! They come from the Far East, and were introduced by the Arabs. Those bizarre, prickly plants with an unusual shape, and a flowering stalk, bearing obscure names - agaves, aloe, prickly pears - he hadn't ever seen these either in his lifetime. Obvious! They come from America [...]." But for Herodotus, the biggest surprises come at mealtimes, when he finds himself looking at tomatoes, chili pepper, beans, the potato, corn, tobacco, all from the Americas; the eggplant, originally from India; rice, peaches and apricots brought by the Arabs. "However - Braudel underlines - these elements became fundamental elements of the Mediterranean landscape [...] the physical landscape and the human one, the Mediterranean crossroads, the heteroclitic Mediterranean, presents itself to our memory as a coherent image, a system in which everything merges and recomposes itself in one original unit".

5.3 THE MEANING BEHIND THE TERMS "MEDITERRANEAN" AND "DIET"

5.3.1 MEDITERRANEAN

If it is true that the two terms "Mediterranean" and "diet" (food), therefore began pairing up recently, the same cannot be said for the two single terms, which instead have a long and complex history of meanings: indeed they not only reflect a history of appropriations of the countries overlooking the coasts of the Mediterranean, but also of all those who have ventured into, explored, conquered and often also lost it.

Therefore the names assigned to this geo-cultural-political area throughout history are expressions of different visions: from the ethnocentric name given by the Romans *Mare nostrum* ('Our sea'), to the more descriptive, objectifying names such as *Akdeniz* ('White sea') for the Turks, *Yam gadol* ('Great Sea') for the Hebrews, *Grande Verde*, perhaps for the Egyptians of the past, according to Abulafia (2010). The term used today, from the Latin "*mediterraneum*", only appears to have been in use from the end of the 1200s (De Mauro, 2000). This means that various centuries passed before the vision focused on the perception of a space considered "their own" by the Romans - a medium to conquer, dominate and control to extend their control over the populations and the rich array of foods (cereals, oil and wine) of their lands, essential for nourishing the Empire (Osanna, Presicce 2015) - could be replaced by an "objectifying" vision that contemplated the sea as a space "between the lands". A space therefore that could potentially be shared by the populations who inhabited its coasts. This vision obviously failed to "prevent" the "sea between the lands" from being crossed for centuries by conflicts, fought for no other reason than to win the control over its resources and shipping routes.

Despite this tendency towards a term which specified the existence of a plurality of realities, the "confines" of the Mediterranean are fruit of conventions that have been constantly and simultaneously negotiated. This leads us to consider that there are different confines and meanings of the Mediterranean: from a spatial point of view, this can include the vast perimeter from west to

east or only the lands that overlook the sea, excluding their deeper inlands, or restrict itself to the lands of the Greek and Roman world and therefore essentially to the countries of modern Europe.

The modern-day awareness developed around the central role positively undertaken in the course of time by the sharing of spaces and foods, even if “blended” differently depending on the populations, should invite us to reflect on how everyday food practices can generate messages that promote scenarios in which such different realities, often in direct contrast to one another, can live side-by-side.

And we should also consider how to pick up the messages that favour a better integration of these: indeed, recently the proposal to extend the range of ingredients that characterize the Mediterranean Diet has been gaining ground. Without prejudice to the solid basis formed by the triad of ingredients composed of wheat, vines and olives, on which the Mediterranean Diet is said to be built, in the scenario of what we currently know in historical terms, this risks expressing a limited vision if we extend our gaze above all in geographic and cultural terms, to the entire geo-political space encompassed by the Mediterranean, and therefore also going far beyond the field identified by UNESCO. This knowledge forms the basis of a significant initiative recently launched during the second edition of the International Festival of the Mediterranean Diet, part of the “Terra Madre Salone del Gusto 2016” events held in Turin. In this case, the Mediterranean is defined as the two million square kilometres of rich, fertile land between the coasts of North Italy and Cape Verde and between Portugal and Jordan. There are seven ingredients marked as conveyors of this additional definition of Mediterranean cuisine and, in addition to wheat, vines and olives, the foods considered to form the basis of the diet include barley, figs, pomegranates and honey. Leaving the viability of the proposal aside, this initiative indicates the growing need today for visions that clearly demonstrate the presence and complexity of the historical weaves within the Mediterranean, rather than restrictive and exclusionary visions. From the point of view of inclusion, the “seven ingredients” would also have the political-cultural role of uniting around the same “table” and creating a borderless symposium between the Jewish, Christian and Muslim worlds, the three main religions in the Mediterranean.

5.3.2 DIET

The term diet, from the Greek word *diaita*, like “Mediterranean”, does not only have one meaning. Vito Teti in *Il Colore del cibo - (The Color of Food)* (1999) informs us that it was used by various Greek authors, such as Pindar, Herodotus, already mentioned above, Hippocrates, Plutarch, with the meaning of “way of life”, “quality of life”, as well as “alimentary regime”. But in the work of other authors such as Sophocles, Aristophanes and again Plutarch, it is also associated with “dwelling place”, “residence”, “room and board”.

Its polysemy is made clear in the paper by Hippocrates, *On the Diet*, which, besides classifying foods based on properties related to nature (climates, local origin, freshness) and those “caused” by the methods of preparation and cooking, also prescribes exercises, activities and rest as aspects which help keep us healthy, when combined with the consumption of the appropriate foods. These notes appear to be destined for those who led a lazy life and perhaps to those who therefore had easy access to various foods, in plentiful quantities. The association between aspects strictly based on food and those linked to physical activity are just as topical as ever, and this is particularly appropriate for an urbanized population, such as the one that exists today, which has no problems accessing food, and consumes more food than it should in relation to the regime of physical activity

practiced which, in many cases, is not very taxing. The meanings of the word diet therefore include the dimensions linked to the food regime, to that of physical activity but also, as Teti makes us note, to that of the place in which we live, the area and the locations in which foods are processed in order to be consumed.

This triad of dimensions brings us back to another aspect linked to the policies of control over our bodies and of active life that many religions have implemented by introducing rules and instructions: the moral aspect that accompanied our behaviour at the table, justified and therefore sustained the diversity of the diets characterized by periods of fasting alternated with those of overeating. Here too the instructions seemed more valid for those who had no problems gaining access to foods and, on the contrary, ate too much of it. Instead, those who worked the land, craftsmen and other lower classes consumed a moderate quantity of food, often interspersed with periods of enforced hunger, based on specific seasonal conditions, not having as frequent, abundant access to the same variety and quality of foods as the wealthy classes. The farmer and labourer classes, subjected to a regime of constant exploitation, probably did not know that in the future they would have served as an example of healthy moderation for everyone, as their diet was considered wise in terms of both quantities (contents), qualities (few proteins and fats, many vegetables and legumes) and routine, for diets which are today defined as sustainable (also eating scraps, recycling leftovers, eating the products offered by the local area). Indeed, it was the religions of the Mediterranean basin that coded rules and methods of limiting food intake or of consuming specific foods or explicitly temporarily or permanently excluding them from the diet.

The Mediterranean Diet therefore combines a settling of culinary practices associated with a healthy lifestyle and with the culture of respect and sharing of foods consumed mainly by the agricultural classes and working classes of the Mediterranean area. The protection of food was a necessity linked to its scarcity, a piece of data that has become eminently cultural as it has been handed down through the centuries of histories of struggles for life. The food in this context underwent a process of “sacralisation”. It was “to be respected”, “not to be thrown away” and so “the grace of God”.

Under these conditions, also characterized by the poor control over the productivity, which permeated all the layers of the population, conservation practices linked to the occasions in which the crops were abundant were consolidated, or those in which food had to be stored in order to cover the requirement of a whole year (such as those made from pigs). Foods were preserved using salt, oil or vinegar and by smoking to reduce the limitations generated by their dependency on the seasons.

Everything that reached the dinner tables of both farmers and lords was accompanied by prayers and rituals of thanksgiving.

The symbolic value that accompanies the consumption of food and, with it, the concept of parsimony, have been forgotten in these last fifty years of history, lived with frenetic rhythms and in pursuit of consumerism. Indeed, the word “diet” is no longer understood in terms of its original meanings, but as a term that describes the sense of limitation of or abstinence from food, due to needs that are imposed on us by others or by ourselves, and in this sense it is connected to the idea and fear of hunger, or alimentary solitude and discomfort.

Eating slowly was, in any case, one characteristic shared by all the traditional food practices of the South of Italy. The ritual of preparing food was often combined with the ritual of “offering food”, and serving dishes to guests, to the poor, to the Saints, to Baby Jesus, to the Holy Family and also to

the deceased, to the souls of Purgatory. So food was made holy and “rituals” were used to prepare, consume and offer it.

A healthy diet, in the wider framework of a modern healthy and well-balanced lifestyle, is a fundamental element for the prevention of a large number of illnesses, by now very common in our society. These are the so-called “illnesses of wellness” (obesity, diabetes, cardiovascular illnesses, tumours etc.). An important characteristic of the foods in Mediterranean cuisine is the fact that these can be adapted to form single dishes. By a single dish we mean a dish which is alone capable of ensuring all the nutritional elements normally partially provided by the first course and partially by the second course; indeed the single dish offers an effective and also cheaper substitute for these. Typical examples, if we limit ourselves to the Italian context, include: pasta with beans (or chick peas, peas, lentils,...), pasta with meat sauce and cheese, vegetable soups, oil and grated cheese, Neapolitan pizza with mozzarella and anchovies. And indeed, by simply adding some fresh fruit and vegetables, one obtains a complete meal, which is nutritionally well-balanced and not too expensive..

5.4 EMBLEMATIC FOOD OF THE MEDITERRANEAN DIET: CEREALS AND BREAD

The close relationship between man and territory, that has been consolidated on the Mediterranean coasts since the most ancient times, has spawned the habit of using the same ingredients and of preparing and eating the same foods over time, even if with many variants. The prime ingredient in the Mediterranean, and also in the rest of the world, has always been cereal (today the consumption of cereal in the world is still higher than the consumption of all the other foods put together). Specifically wheat, which had arrived from the Middle East and became a symbol of the diet, together with bread, as well as the symbol of civilization and life. In the Mediterranean, according to Fernand Braudel, wheat is the king. It occupies a central role in the diet of the recent past, especially in the poorer regions, to which the linguistic pervasiveness of cereals and bread can be traced, including the synecdoche using the word bread to mean food and life.

The Mediterranean is a part of the world in which cereals and bread have been, and are still, the foundation of life, both nutritionally and symbolically, the same as rice, corn, millet and tubers elsewhere. In the past, the desire for food of people who faced the problem of hunger on a daily basis mainly focused on bread, an aspect that leads many to define the traditional rural civilization as the “civilization of bread” and to consider bread as a “metaphor for life”.

And it was with the colonization of the south of Italy by the Phoenicians and the Greeks that cereal farming was developed on the coasts of the Mediterranean, with a new strong productive tendency, as huge quantities of cereals were exported to the Middle East. The Greek peninsula, due to its shape and location, favoured the development of fishing and maritime trade by its inhabitants, who also exploited the many vines and olive trees present in the area.

Bread would be made with wheat by the Romans who would also prepare a sort of “pizza” dressed with oil, vegetables and garum, but also with barley, reserved for slaves and gladiators, millet and panico, to make it into a sort of puree, as well as spelt. Wheat and barley were also used to make beer, consumed in Mesopotamia and Egypt. The bread made by the Greeks took various forms that distinguished themselves for the cereal flour used to make them, for the way in which they were baked (oven/casserole/grill/under the cinders) and for the ingredients added to them (oil, others fats, honey, milk, wine, pepper). The Romans had begun with barley, then moving on to spelt and finally to wheat, while the Etruscans used millet. In any case, wheat was the most disseminated and

favoured agricultural product for its nutritional properties as, thanks to the presence of substances rich in protein, even when eaten alone it could fulfil one's daily dietary requirement.

Although the material conditions have changed, and in many contexts bread is no longer as essential a food in the diet as it was in the past, it still maintains and, in some cases, increases its symbolic richness the more its nutritional benefits decrease. One of these aspects concerns the holy dimension of bread. In popular religion there is a continuous parallelism between the phases of bread-making and the figure of Christ. The image of bread as the body of Christ generates that sacred meaning constantly expressed by the culture linked to the rural world in the gestures of domestic micro-rituals, in rules and prohibitions (for example, bread shall never be wasted or thrown away, even when it is not in short supply). This attitude of reverence for bread, which emerges strongly in exquisitely contemporary practices, can be traced back to the pre-Christian cereal-farming cultures, for which bread was an essential commodity, the symbol of the fruits that man reaps from the earth, a loving gift from nature, from the gods, the fruit of hard work. The images produced coincide with the parallelism established by the life cycle of wheat, the phases of the bread-making process and the human circle of life, marked by rituals which use bread as a metaphor for humanity and fertility. In Christianity, cereals in general and especially bread, are elements that generate a series of images which refer to the idea of death and resurrection or to the mystery of fermentation and gestation.

In some cases, this function of bread as a holy symbol is explicitly manifested. A relevant example is the kind of bread made in Sardinia, with shape and decoration of Christian symbolism to celebrate festivals or processions, such as bread in the shape of a cross or a crown of thorns for Lent.

The nutritional value of bread is appreciated by the so-called folkloric culture. Nationally speaking, proverbs cite bread as a basic element, capable, in a poor diet, of ensuring the prime source of sustenance - see the Umbrian proverb "carne fa carne, vinu fa sangue e pane mantiene" (meat makes flesh, wine makes blood and bread maintains). And then, when the bread is made of good quality wheat, the proverbs begin to praise its power to keep us healthy: in Tuscany they say "pane di bon grano tiene il medico lontano" (bread of good wheat keeps the doctor away). Bread can be put to many therapeutic uses (indeed, using pancotto is popular for this purpose as is the practice of giving nursing mothers bread to stimulate the production of breast milk), and some have a truly magical identity. It is believed that it cannot convey evils and is introduced into domestic uses and customs. People carry a crust of bread in their pocket or hide one in the bedclothes of a baby to ward off evil spirits.

5.5 IDENTITARIAN CULTURES

5.5.1 INTANGIBLE FEATURES OF THE MEDITERRANEAN DIET

Being characterized not only by tangible features (resources, foods, nutritional elements), the Mediterranean Diet is characterized by intangible cultural features too, referring to the production, distribution and consumption of foods. These form a series of skills, knowledge, practices and traditions that distinguish the Mediterranean, covering a wide range of fields that span from the interaction with and creation of the landscape using diversified crop, harvesting, fishing and farming systems, to the characterization of the customs at the table, based on specific practices of conservation, processing, preparation and consumption of food.

These are different expressions, specific to each Country, and they in turn contain even more specific realities which do not deny the creativity of the individuals - an aspect that also emerges in the aesthetic dimension of food - but still maintain and favour common dimensions and values. As it is fruit of a blend of elements, both in terms of its main, essential ingredients and also with regard to the recipes and customary ways in which it is prepared and consumed, the Mediterranean Diet is, above all, the (conscious or unconscious) interaction of different food traditions and therefore it is the historical expression of contacts and encounters between cultures (simply consider the many foods from the American continent and from Asia which have become essential ingredients that characterize its identity, such as tomato, capsicums and chili pepper, cocoa, beans, polenta, eggplants, oranges etc.). The Mediterranean Diet therefore reflects a tendency to open up to one's neighbours. It indicates one of the aspects of living side-by-side, and is the emblem of intercultural exchange, of integration, starting from the sharing of the collective responsibility towards food and how it is consumed.

The element of conviviality, or the taste and pleasure of consuming food together with others is a key concept. This also occurs by way of practices and exchanges of communication focusing on food itself, how it is perceived by the senses, how it looks, the skill with which it has been prepared, the quality of the ingredients. Conviviality is therefore a complex state, statement and action that involves both the meal in itself, and its preparation, both on an ordinary, everyday basis and during important celebratory occasions. Conviviality is the linchpin of fundamental and peculiar social, linguistic and cultural aspects.

The convivial ritual and the sharing of the meal, has always also been a way of expressing one's social and cultural identity and of strengthening interpersonal relationships and so the sense of belonging to a community. During meals, values are conveyed, stories, symbols and traditions are passed down from one generation to another, reviving the relationships between those who have the knowledge and those who come to learn it. Passing down traditions, terminological skills, (regarding foods and their processing, preparation and consumption), knowledge and methods - and here women play a key role- related to food is an integral part of the Mediterranean Diet.

Firstly: oral memories but also those incorporated in the gestures and in the skill of the hands, methods that teach virtuous forms of interaction between man and his surrounding environment and which are linked to deep-rooted existential and more general experiential aspects. Conversation accompanies the meal, helping to share and convey the terminological skills linked to food and organize the taste and scent experience, while at the same time keeping alive the recognition of the action of eating as an identifying factor which strengthens the social connections of the family and the community with both the territory and its historical knowledge and legends. And this occurs by passing down lessons that are not only related to a way of eating. Indeed they also represent an existential and experiential way of being and expression that comes from the knowledge of the environment/nature and from the constant reproposal of consolidated relationships between man and the environment that come from the past of the Mediterranean area communities. The lessons in question have today been filtered down, acquired and experienced under the drive of notions such as tradition, customs and religious rituals and profane ceremonies. A form of knowledge that embodies virtuous behaviour, often generated from poverty and from necessity, but today useful for outlining production and food regimes in accordance with a sustainable development from a social, environmental and economic viewpoint. The equilibrium encountered in the landscape of the Mediterranean is indeed ensured by the continuation of the tried and tested activities deeply rooted in tradition. The promotion of the Mediterranean Diet is therefore at one with the continuity of time's

passing, the accumulation of knowledge and the development of the traditional and crafting activities related to cultivation, farming and harvesting, in accordance with the seasonal rhythms, with the preparation, and consumption of foods according to knowledge and practices that are deeply rooted in time, have been verified and therefore handed down.

As for consumption, this mainly translates into the consumption of some kind of food and in accordance with times, doses, methods (for example moderate quantity, high quality, seasonal availability of local products, conviviality, frugality, craftsmanship) which give a symbol and “tangible” value to food as a commodity not be wasted, thrown away, left to deteriorate, but on the contrary also to be exploited in the parts defined as less “noble” and reused, or “recycled”. Anything left over or anything left on one’s plate is re-proposed in recipes in line with consolidated or creative procedures that stress principles of economizing and respect for food. This leads to a type of “responsible” consumption which is the result of specific historical knowledge and certain social and economic conditions that may not always be prosperous, and has produced detailed knowledge about the components and the parts of foods sourced from animals and plants. This knowledge has led us to adopt strategies of consumption that frown upon waste and to create dishes which can today be interpreted as sustainable and anti-waste. The consumption of food is associated with a lifestyle that also includes physical exercise and staying in the open air as much possible.

The use of fresh, natural products from the respective territories, prepared with due regard for local historical food customs, is a powerful tool against the “illnesses of wellness”, the lack of variety in terms taste and the flattening of the senses. This brings to light just how much the Mediterranean Diet is linked to expressions of knowledge that lead us to be sensitive to the origins of the products and their characteristics. To sum up, it is all about a healthy lifestyle that can and shall be within everyone’s reach; supportive and sustainable for the planet, against waste and in favour of an equilibrium that respects the vital value of food and of the methods used to produce, prepare and consume it. A style of life and development that cannot be separated from the respect for history that underlies the deep-rooted customs and habits of each community.

From a cultural point of view, all these features are particularly frequent and significant during festive occasions when people eat together in appointed places and the powerful medium of food helps to form the identity of the community. Indeed, during meals eaten together, which are the cornerstone of festive events, gestures of reciprocal recognition, hospitality, courtesy, conviviality, handing down treasures from generation to generation, and intercultural dialog are practiced. Knowledge is conveyed in the form of songs, mottoes, stories, proverbs and tales, strengthening even further the collectivity of the territory, as a result of the history of encounters, exchanges and integrations between experiences and knowledge connected to the food that have built it.

5.5.2 ENVIRONMENT, TERRITORY AND LANDSCAPE

The Mediterranean Diet encompasses a set of knowledge and skills linked to tradition, going beyond the nutritional qualities of the type of diet it proposes. Indeed, the populations of the Mediterranean have developed practices for growing, harvesting, storing, processing, preparing and consuming food around their diets, characterized by a model which has remained constant in both time and space. This model has been handed down from generation to generation, becoming an identifying element that has strengthened the sense of belonging and continuity for the populations involved. But the Mediterranean Diet not only presents benefits from a social or cultural point of view, or only for good health; it also stands out for its environmental friendliness. Indeed, the

proposed model has a lesser impact on the environment than other dietary models. The Mediterranean Diet presents significantly lower values than low calorie diets and the population's actual consumption, with regard to the main parameters for the assessment of the environmental impact, which are *carbon, water and ecological footprint*.

The Mediterranean Diet also has a deep respect for biodiversity, the seasonal cycles and the sustainable and rational use of the local genetic resources, seeking a perfect equilibrium between nature and man. Renewing interest in and adequately sustaining this diet could therefore be an important driver for favouring the sustainability of the area of the Mediterranean, in its widest sense. By promoting the Mediterranean Diet, we are helping to conserve the naturalistic heritage of the interested areas, avoid the depopulation of the countryside and sew the social fabric of the agricultural population back together. In this outlook, positive effects can certainly be achieved in various fields: the conservation of the landscape and the natural resources, the maintenance and promotion of craft activities, fishing, farming and agriculture.

Thanks to the Mediterranean Diet, the local communities have the opportunity to add value to their products, consolidating the link with the territory and with its unique historical and geographical features. In addition to the products themselves, knowledge about the procedures used to obtain, cook, consume and share them is also passed on, knowledge that appears more eco-compatible than that of other food models. This virtuous mechanism established not only provides consumers all over the world with a food of undisputed quality, but also with products that incorporate the memory of the past of the locations and their traditions, a clear quality and environmental value (see also clause 5.8.2.7). These are associated with healthy dietary behaviours that make the meal a convivial experience. The effects generated have a positive effect in terms of increasing the wealth of the rural world and of an increasingly sustainable tourism, with effects on wellbeing and the dissemination of better awareness about the importance of the delicate equilibrium of the ecosystems.

5.6 FOOD AND NUTRITIONAL SCIENCES

5.6.1 COMPOSITION OF THE MEDITERRANEAN DIET

The nutritional recommendations of the major international organizations regarding the optimum composition of the diet envisage a consumption of saturated fats accounting for approximately 10% of the daily calorie intake, a total fat count not exceeding 30%, proteins of less than 10 to 15% and carbohydrates at between 50 and 60% of the daily calories to be consumed.

If we compare the composition of the diet in the United States with these recommendations, it is clear that the composition of the regular diet there presents obvious shortcomings in relation to the composition of the ideal diet for preventing cardiovascular and neoplastic illnesses. This is because the saturated fats are between 15 and 20%, the total fats exceed 40% and the carbohydrates are about 40% of the daily calories consumed. Therefore, in the United States the composition of the diet is very far from the recommendations issued by the World Health Organization and the major Organizations that focus on human health.

On the contrary, the only one of the Mediterranean countries whose diet has a similar composition to that of the United States is France. Instead, all the others, have a low consumption of saturated - animal - fats, between 10% and 15%. The total fat content of the Mediterranean Diet accounts on average for around 30% of the calories, although in some countries such as Italy, Spain and

Greece, it exceeds the recommended threshold value. However, in these cases the excess fat is in any case present in the form of unsaturated fats, and so fats sourced from plants that do not increase the risk of cardiovascular and neoplastic illnesses. Therefore, on one hand, a low consumption of saturated fats is a constant in the Mediterranean Diet, while on the other, there is a large range of variance when it comes to the consumption of unsaturated fats. The consumption of carbohydrates exceeds the recommended amount (>50%) in all the countries in the Mediterranean area with the sole exception of France, with a consumption that accounts for approximately 43% of the daily energy intake and is similar to that of the United States (44%). The protein intake in all the Mediterranean countries corresponds to the current nutritional recommendations for the prevention of chronic degenerative diseases, even if the ratio of animal/plant proteins tends to be higher than the desired value.

Contrary to what one might expect, in the current Mediterranean Diet, the consumption of indigestible carbohydrates (plant fibres), with their well-known effects on the metabolism of sugars and fats and on the prevention of cancer of the colon and rectum, is inferior to the recommended value (20g per 1000 Kcal/day), with an average value of approximately 10g per 1000 Kcal/day.

Normally, meals are spaced out at five regular intervals throughout the day, with three main meals (breakfast, lunch and dinner) and two snacks (mid-morning and afternoon).

Seasonal fruit and vegetables play a key role as providers of vitamins, mineral salts, antioxidants and fibres. Table 1 here below provides a schematic summary of the various food groups with related advice for consumption.

Table 1 - Food groups and consumption advices

Food group	Nutrient	Function	Advice
Cereals: pasta, bread, rice, corn, spelt, etc. Tubers: potatoes	Carbohydrates (starch), plant proteins with a medium organic value, several vitamins of the B complex, fibre.	Energy-providing, rebuilding and repairing	Favour wholewheat and wholegrain products Use cereals for breakfast, lunch and snacks. Limit their consumption at dinner Moderate the consumption of pizza, biscuits Consume 3-4 portions of different foods from this group each day
Fruit and vegetables Fresh legumes	Vitamins (especially provitamin A and vitamin C), minerals and antioxidants in general, water and carbohydrates, fibre.	Regulatory, protective, energy-providing	Moderate the consumption of grapes, bananas, figs, sugary fruit juices
Milk and dairy products: cheese, yogurt, ricotta etc.	Animal proteins of a high organic value, minerals (highly bioavailable calcium, phosphorus, etc.), vitamins (especially B2 and A), carbohydrates (lactose).	Energy-providing, rebuilding and repairing, regulatory	Favour skimmed or semi-skimmed milk and yogurt, fresh, low-fat cheeses Avoid cream and butter

Food group	Nutrient	Function	Advice
Meat, fish, eggs Dry legumes: chick peas, fava beans, beans, lentils, lupin beans, soy etc.	Animal proteins of a high organic value, minerals (zinc, copper, highly bioavailable iron, etc.), some vitamins of the B complex. Sources of plant proteins of a medium organic value, some vitamins of group B and minerals (in particular iron).	Rebuilding and repairing, energy-providing	Favour lean meats and oily fish (cod, snapper, etc.) Eat fish at least three times a week Restrict the consumption of cured meats, fatty meats and fish, offal Consume eggs without adding fats (soft or hard boiled)
Cooking fats	Fats, fatty acids, including essential ones, liposoluble vitamins A and E.	Energy-providing	Restrict the consumption of fats in general, especially those of animal origin and fried foods Favour vegetable oils, in particular extra virgin olive oil

The current Mediterranean Diet preserves the following unique qualities:

- low consumption of saturated fats;
- high consumption of mono-saturated fats;
- moderate consumption of simple carbohydrates (or simple sugars).

These characteristics confirm the adequacy of the Mediterranean Diet as a useful food model for the prevention of cardiovascular illnesses and other chronic degenerative diseases that are particularly widespread in the industrialized countries.

However, a negative trend is now being observed concerning the increase in the energy intake, the increase of the consumption of total fats and cholesterol and the decrease in plant fibres.

Raising awareness about the value of the Mediterranean Diet can serve to preserve and disseminate the correct alimentary habits present in the Mediterranean countries and invert dangerous trends, linked to urbanization and to social and economic progress, which are capable of undermining this strong model for a healthy diet.

In this regard, over the last few years, the National Plan for Health in Italy has also focused in particular on the importance of changing our food habits if we are to protect the population's health. With a view to counteracting the food customs and lifestyles that worsen the risk profile for cardiovascular and neoplastic illnesses, it proposes the implementation of behaviours that are capable of benefiting the health, also by promoting the production and dissemination of products suitable for a correct diet.

NOTE It now seems more appropriate than ever to identify the extent to which people are following the Mediterranean Diet, using the index of adequacy to the Mediterranean Diet as suggested in November 2016 in the Agreement between the Italian Government, the Regions and the Autonomous Provinces of Trento and Bolzano by the document bearing the “Evaluation of the national issues regarding nutrition and the strategies of intervention for 2016-2019”, which specifies various initiatives related to the effective implementation of the DRV (Dietary Reference Values) in the surveillance of nutrition and in mass catering.

5.6.2 FOOD PYRAMID

The food pyramid (see Figure 2) is the symbol of a “healthy and well-balanced diet” and it is a guideline for choosing the proper food we should consume each day.

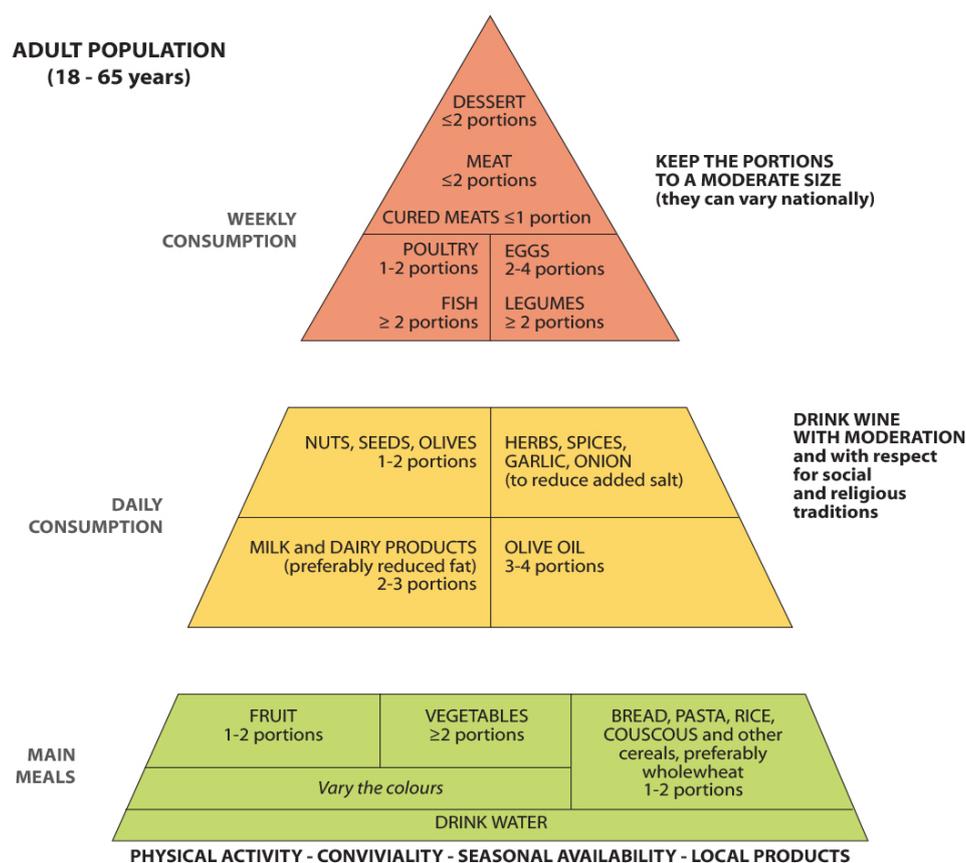


Figure 2 – The food pyramid

This is a graphic representation of the new reference diet model for the populations of the Mediterranean, and targets individuals of between 18 and 65 years old, bearing in mind the evolution of modern society, without ignoring the diverse cultural and religious traditions and different national identities. The pyramid highlights the importance of physical activity, of a healthy diet, recommending the consumption of local products on a seasonal basis, and illustrates, for the very first time, the concept of structuring the main meals and the frequency of consumption of the various categories of foods. The new pyramid reformulates the concept of nutrition as a model of healthy eating, capable of reducing mortality and morbidity rates in a new concept of the Mediterranean Diet as a sustainable lifestyle that expresses itself through the various unique features of each country.

The food pyramid is composed of 6 sections containing various food groups. Each group shall be present in our diet in proportion to the size of its section.

It is important to take into account that:

- no food in itself is able to fulfil all of our body's needs;
- no food is absolutely indispensable and so all foods can therefore be replaced by others with similar characteristics;
- foods that appear at the base of the pyramid are those which shall be eaten more often and in greater quantities during the day.

The higher up the pyramid, the more we need to restrict the quantity and frequency of the consumption of the foods portrayed, right up to the top, where fats and sugars are found. Use of these should be kept under tight control.

5.6.2.1 THE SIX BASIC FOOD GROUPS OF THE PYRAMID

All the most common foods have been divided into six basic groups. Each of these groups contains specific nutritional staples and, when combined, the six groups contain all the nutritional staples. As a fundamental rule of our diet, we shall add at least one food from each basic group to our daily or weekly diet; in this way, we will be sure of procuring all the substances required and of following a well-balanced diet, that is, a diet which does not makes us gain or lose weight, but keeps us in good health.

Although it is essential to vary our foods as much as possible, we should, in any case, go by the rule of favouring complex carbohydrates (bread, pasta, corn, potatoes, legumes, fruit) and consuming moderate quantities of fats (butter, fat, oil, cream) and proteins (meat).

The proposal of the “Mediterranean single dish” also provides the most adequate response to the contemporary requirement for a “light”, nutritional meal with a good energy intake, as desired by the modern diet, providing a consolatory alternative to the extremely sad, stagnant “mixed salad”. Indeed, a good meal shall combine a good capability of stemming our hunger with just as good a nutritional value, otherwise it is highly probable that we will lose control at the next meal.

Specifically, 58 to 60% of our daily calorie intake should come from carbohydrates, 30% from fats and 10 to 12% from proteins.

The six basic food groups of the pyramid are:

Group 1) MEAT FISH EGGS

The group includes: all meat, cured meat products and sausages, cooked and raw ham, mortadella, all fish, shellfish, crustaceans, eggs.

This group mainly provides: proteins, iron (spleen and liver), vitamins B1, PP, B2, B12, iodine (fish products), liposoluble vitamins A, D, K, lipids (high percentage in red meats and cured meats, even if the latest types of animal feed and genetic selection have reduced the fatty infiltration of the meat currently on the market to well below the percentages reported in the old food composition tables).

Advice: eat lean meat more often (chicken, turkey, rabbit, oily fish) than fatty meats (beef, pork, cured meats), do not eat more than 3-4 eggs per week.

Group 2) MILKS AND DAIRY PRODUCTS

The group includes: all types of milk, cheese and yogurt.

This group mainly provides: proteins, calcium (in large quantities), vitamins from the B group and liposoluble vitamins, phosphorus.

Advice: if overweight, favour skimmed milk and low-fat cheeses.

Group 3) CEREAL AND TUBERS

The group includes: all kinds of bread and pasta, gnocchi, rice, barley, spelt, rye, oats, crackers, melba toast, corn, semolina, polenta, puffed and flaked cereals (such as cornflakes), potatoes, chestnuts.

This group mainly provides carbohydrates (mainly in the form of starch), vitamins B1, PP, fibre (whole-wheat foods).

Advice: this group, together with that of the legumes, should constitute the largest part of the diet. Favour whole-wheat foods.

Group 4) LEGUMES

The group includes: beans, chick peas, peas, lentils, fava beans, soy.

This group mainly provides: protein, iron, carbohydrates (mostly in the form of starch), fibre, vitamins B1, B2, PP, calcium and iron, even if a smaller amount of the latter is contained than that present in animal products.

Advice: vegetarians or those who do not eat much meat shall source protein from this group, as well as from that of the cereals and tubers (the two groups combined can replace meat). Legumes are very nourishing, cheaper than meat and fat-free. One of the traditional dishes of Italian cuisine, pasta and beans, dressed with olive oil, is one of the most complete, well-balanced foods.

Group 5) COOKING FATS

This group includes: butter, lard, rendered fats, cream, bacon, pork jowl, margarine, olive oil, seed oil and also other food products made with fats such as mayonnaise, sweet spreadable creams made with cream, etc.

This group mainly provides: fats (sometimes in large quantities), liposoluble vitamins from group A/E. Vegetable fats (olive oil), given their acidic composition, richer in unsaturated fats, are preferable to animal fats (butter, cream) in which saturated fatty acids are more abundant.

The only exceptions are palm oil and palm kernel oil which, despite being vegetable fats, are particularly rich in saturated fatty acids, especially palmitic acid. All fats are equal in terms of the

energy they provide, but in terms of quality they can differ greatly. Indeed, their chemical composition varies, especially that of fatty acids (which can be saturated, unsaturated or trans fats). The different quality of the fats can have important effects on the state of man's nutrition and health.

Group 6) FRUIT AND VEGETABLES

This group includes two sub-groups:

- a) the first sub-group includes all fruit and vegetables with a yellowy orange and dark green colour: carrots, apricots, peaches, pomes, melon, yellow and green peppers, spinach, beets, yellow pumpkin, chicory, broccoli, agretti, endives, green radicchio, etc. This sub-group mainly provides: pro-vitamin A (carotene), vitamin C, minerals, fibre, vitamin B, carbohydrates (in the form of sugars in fruit).
- b) the second sub-group includes: all the budding vegetables and fruit with a bitter taste, broccoli, cauliflower, cabbage, red radicchio, lettuce, tomatoes, new potatoes, orange, lemon, grapefruit, mandarins, strawberries, raspberries, brambles, pineapple, kiwi, all other types of fruit (even if they contain lower quantities of vitamin C).

This group mainly provides: vitamin C, vitamin A, minerals, fibres, vitamin B, carbohydrates (in the form of the sugars in the fruit).

Advice: this last group is extremely important for the diet because it provides most of the vitamins and contains substances that prevent many illnesses, such as heart attacks and tumours. The foods in this group should be eaten everyday as part of the diet, preferably fresh and raw.

Annex B provides with technical information product sheets about food characterizing the Mediterranean Diet.

5.7 MEDICAL – SCIENTIFIC FEATURES

5.7.1 GENERAL

As known from the direct observations made by Ancel and Margaret Keys, who studied in depth the dietary habits of several Mediterranean countries in the Sixties, the term Mediterranean Diet originates in particular from the European coast of the Mediterranean: Spain, the south of France, Southern Italy and Greece. These studies were performed by observing certain professional categories of people, or directly in the homes of families of each social class.

The Keys set up home permanently in Cilento in Southern Italy and from their experience, which also had an ethno-anthropological dimension, they drew inspiration for writing scientific articles and an extremely famous book of recipes, which above all targeted the American public, entitled: *Eat well and stay well, the Mediterranean way*. From *Mediterranean way*, which also included lifestyle in general, the passage to *Mediterranean diet* was rapid.

Indeed, the book is a collection comprising hundreds of recipes from these four villages, with particular reference to recipes from the coastal areas: the recipes are described in detail and, at the end of each one, the total calories, proteins and fats, divided into saturated and polyunsaturated fats, are reported. The carbohydrates (simple or complex), fibre content and presence of antioxidants, etc. were not of any interest, as at that time little or nothing was known about them. It

was a pioneering endeavour, but one built on solid foundations. It became the predictor of interests and observations which have only enriched the observations made by the Keys over time.

Today the dietetic principles that inspire the Mediterranean Diet are recognized as being of prime importance for the prevention of all chronic and degenerative illnesses. These include all the chronic, non-contagious diseases present in the western and westernized populations. The Mediterranean Diet has practically inspired or been a benchmark, even in its understandable variants, for all the guidelines for a healthy diet proposed by the national and international organizations that protect citizen's health. Additionally, all the scientific institutes that need to propose lifestyles for the prevention of the illnesses they study, or for the treatment of the same without drugs, refer to principles clearly inspired by the Mediterranean Diet.

These include the prevention and non-pharmacological treatment of diabetes, hyperlipidaemia, arterial hypertension, obesity, metabolic syndrome, cardiovascular illnesses, some kind of neoplasia: in this latter case both for the purpose of primary prevention and also in case of relapse. The positive effects of the Mediterranean Diet are due to its composition (low in simple carbohydrates, saturated fats, animal proteins, beverages with a high alcohol content, but rich in complex carbohydrates, plant proteins, mono-unsaturated fats, plant fibres, antioxidant substances, vitamins and minerals). In particular, it guides us to consume foods such as pasta, vegetables, legumes, fish, fruit in the right quantities, and to control our consumption of lean meat, dairy products, olive oil for dressing food, wine (preferably red) only drinking the latter in the right doses and with meals.

As already anticipated in the previous paragraphs, in relation to the original assumptions cited by the Keys, now the demographic characteristics of the world population have completely changed. The world's population has simply spiralled out of control, conditioning the eco-system, also by way of the complex phenomenon of urbanization, and these changes have had a negative influence on the health of the planet.

Indeed, there is even talk of a new geological epoch named "Antropocene", underlining the substantial and prevalent effect of man's activities on the entire "Planet System".

Urban degradation, with its negative elements, is linked to the higher incidence of non-contagious, chronic degenerative illnesses (diabetes, hypertension, obesity, cardiovascular and respiratory illnesses, some kind of neoplasia, etc.). The protection of the territory, also by increasing the eco-compatible productions (such as producing more vegetables, fruit, legumes, cereals) is a key objective for combining the protection of the territory and the protection of health.

Over time it has also been possible to document other benefits, such as the good interaction between foods, as proposed in the percentage quotas by the Mediterranean Diet and continuous, regular and non-intensive muscular exercise (complex carbohydrates should be favoured over the excessive consumption of animal fats and proteins). Finally, the benefits of this diet also associated with the daily behaviour, that is a "more relaxed and sociable lifestyle." All this has favoured the production of a very wide selection of recipes, all extremely popular but also accepted by everyone, not only thanks to their presentation and variety but also due to the fact that they are easy to digest. This is the concept on which the Mediterranean Diet bases its success: it can also be easily applied to the lifestyle requirements of contemporary societies. Additionally, as it is a mainly vegetarian diet, although on one hand it reduces the risks of the organism lacking nutrients, which can in any case potentially be produced by a strict diet placed in the hands of a non-expert, it is also extremely eco-

compatible and therefore the ideal application of an ecologically sustainable agro-food production. And this is no mean feat for a globalized society with a highly urbanized world population composed of more than seven billion individuals.

5.7.2 MEDITERRANEAN DIET AND ANTIOXIDANTS

Many properties are attributed to the Mediterranean Diet, and of these, its antioxidant qualities are certainly the main element characterizing this diet. It contains many vegetables, fruits and vegetable oils, which provide our organism with a high quantity of antioxidants. An important theory which sustains the belief that the Mediterranean Diet has beneficial effects against cardiovascular illnesses, is based on the fact that its antioxidant properties reduce oxidative stress. Based on a vast series of tests on animals, oxidative stress is considered to be an important phenomenon in the pathogenesis of many illnesses linked to aging, including the cardiovascular illnesses. Oxidative reactions form part of the normal energy-producing process during the aerobic metabolism process. These reactions produce reactive kinds of oxygen which can be damaging if they are not controlled. The human organism naturally defends itself from the free radicals, producing endogenous antioxidants such as superoxide dismutase, catalase and glutathione. Once a certain threshold has been exceeded, antioxidants shall be provided by an external source. Antioxidants are not a homogeneous category of substances: they are composed of vitamins, minerals, essential amino acids, and all these substances have, among other things, one fundamental ability: they are capable of effectively counteracting the action of free radicals.

Antioxidant agents can act individually or interact, protecting one another when they are oxidized.

Each antioxidant has a field of action limited to one or two specific free radicals. Therefore, only a complete, well-balanced diet can ensure an effective anti-oxidant action. To guarantee a sufficient daily intake of antioxidants, experts recommend that we follow a well-balanced diet and consume at least 500 to 600 grams of fresh, seasonal fruit and vegetables (200 gr of fruit and 300 gr of vegetables).

Phenolic compounds are the ultimate antioxidants and in their various forms, they are the main components responsible for the functional properties associated with many foodstuffs, such as, for example, the antioxidant, anti-bacterial, anti-viral and anti-inflammatory properties, the cardio-protective effects, and the prevention of enzymatic darkening. Particularly rich natural sources are colourful fruit and vegetables (dark green, yellow, purple, red, orange, etc.) and natural products derived from these, which are some of the foods which form the basis of the Mediterranean Diet.

Chemically, phenols can be defined as substances that have an aromatic ring linked to one or more hydrogenated substances, including their functional derivatives. The presence of phenols can influence the oxidative stability and microbiological safety of foods, and this is what has prompted them to be extracted and used as natural antioxidants and antimicrobial substances. Simple phenols are liquids or solids with a low melting point; they have a high boiling point thanks to the hydrogen bonds that they form. Most of the other phenols are insoluble.

In nature many kinds of polyphenols can be found, characterized by a distinct structural and functional variability. However, in general, the activity of the polyphenols can be summarized as follows:

- Antioxidant: they protect the cells from the damage caused by the free radicals which develop with the normal cellular metabolism and due to stress-creating events such as radiation, smoke, pollutants, UV rays, emotional and physical stress, chemical additives, viral and bacterial attacks.
- Anticarcinogenic: in general, they have been proven to make an impact during the initial stage of tumour development, protecting the cells from the direct attacks of carcinogens or altering their mechanism of activation (in vitro). These facts explain the traditional epidemiological evidence according to which the consumption of fresh vegetables can be linked to a reduced incidence of some types of tumours (skin, lung, stomach, oesophagus, duodenum, pancreas, liver, breast and colon).
- Antiatherogenic: it is widely reported that the oxidation of the lipids, and in particular the LDLs, is the cause of the development of atherosclerosis and its related illnesses (stroke, thrombosis and cardiovascular illnesses in general, the first cause of death in western countries). The main mechanism is the reduction of the coagulation of the platelets and the LDLs; other mechanisms are the inhibition of the oxidation of the lipoproteins, the radical scavenger action and the modulation of the metabolism of the eicosanoids. Natural sources: especially colourful fruit and vegetables and natural products derived from these.

5.8 QUALITY, FOOD SAFETY AND HEALTH

5.8.1 GENERAL

Quality and food safety depend on the efforts of all the parties involved in the supply chain of agro-food production, transportation, preparation, storage and consumption. According to the synthetic definition provided by the European Union and the World Health Organization (WHO), food safety is a shared responsibility from the field to the table. This is even truer when the issue is the Mediterranean Diet.

As to maintain quality and food safety throughout the entire agro-food supply chain, on one hand, the operating procedures that guarantee food salubrity shall be established and, on the other hand, the systems in use to ensure that the operations are being correctly performed shall be monitored. The pathway to be followed for this purpose pans out in various milestones: the application of the legal framework of the food sector which reflects the “from farm to fork” policy, covering the entire food supply chain; the players in the production shall be accountable for a safe production of foods; the performance of appropriate official controls; the ability to implement fast and effective protection measures to tackle health emergencies that may manifest themselves at any point in the supply chain.

As envisaged by the European legislation and regulation on food safety, the duty to communicate to consumers is strategic. Consumers shall be kept adequately informed regarding the activity of the organisms institutionally accountable for ensuring the salubrity of foods, any new emerging concerns on food safety, the risks that some kind of food can represent for certain groups of people and the consequences on one’s health of an inappropriate diet, promoting diets which are better balanced, the Mediterranean Diet being an important example of these.

The consumer is protected by ensuring that products are trackable and traceable. Tracking is the process by which the product can be followed from the beginning to the end of the production

supply chain (“from the farm to the fork”) recording information (or “tracks”) in each phase of its production. Instead traceability is the inverse process, by which all the information previously filed is located and linked to provide a clear, comprehensive history of the product and the related responsibilities in the various processing phases.

The opportunity of adopting the Mediterranean Diet fits in well to this outlook which represents the new frontline of the health of the population, as the Diet is considered to be a prime effective prevention tool for improving our life quality and expectancy. as far as the Mediterranean Diet is concerned, the objective is to intervene on the main prevention, control and correction processes to ensure high reference safety levels of foods, helping to create an integrated safety and quality system throughout the chain (production processes, control systems, prevention and correction, transportation and storage).

5.8.2 MAIN FEATURES OF FOOD PRODUCT QUALITY

5.8.2.1 GENERAL

The concept of quality is complex to unequivocally define because it is based on a subjective perception. The quality of a product is defined by the set of properties and characteristics that the product features, the consumers’ expressed and/or implicit needs and it takes into account both intrinsic (nutritional, health, organoleptic, process-related) and extrinsic attributes.

There is not, and there cannot be, one single definition of quality, as by now it is well-known that this shall be defined in relation to the ability of a certain commodity or service to meet the evident or latent needs of consumers and/or customers.

As the years have gone by, this concept has undergone an intense evolution, above all due to the fact that the consumers themselves have become more aware of its importance.

In addition to the typical objective parameters, such as size, form, pieces, shape, colour, etc., the consumer also requires other parameters such as: salubrity, nutritional requirements, taste, aroma, etc. in order to characterize a product,

Quality shall be taken into account as the absolute reference element of the Italian agrofood system, closely linked to all elements of the Mediterranean Diet:

- product quality;
- legal quality;
- origin-linked quality;
- nutritional quality;
- sensorial quality;
- environmental quality.

A kind of quality, deriving from the minimum guarantee that the foods shall ensure, is their salubrity. Today food safety is an essential condition for an agro-food system, but this essential requirement

shall be accompanied by measures that define a wider, more intense quality framework: eradication of chemical residues, animal wellbeing, reduction of waste and packaging, organoleptic quality, nutritional quality, environmental quality, are some of the essential elements of a production process that meets consumers' expectations.

In addition to the above-mentioned features, it is appropriate to add a brief note in relation to the "quality" linked to the social responsibility of the organizations operating in the chain of the products that characterize the Mediterranean Diet (see clause 5.10).

5.8.2.2 PRODUCT QUALITY

Product quality refers to the commercial characteristics, external appearance and packaging of food products. Indeed, packaged food products shall have packaging and labels that comply to the relevant laws in force. In particular, each pack shall clearly and readably state the expiry date.

5.8.2.3 LEGAL QUALITY

Legal quality is that guaranteed by the set of rules regulating the food sector: a product shall meet some minimum legal requirements as to be defined as high quality food.

The Italian legislation protects people's health with a large number of laws and regulations. Alongside the legislation that embraces the entire food sector, there is also a more specific legislation which concerns a particular sector and one that is even more specific, which concerns a specific food within that sector. For example, the sector of cheese is regulated by many laws and in turn, the production of Parmigiano Reggiano, Pecorino Romano and Buffalo Mozzarella, to name but a few, is regulated by a series of regulations that refer specifically to these products. In many cases, products for which specific laws exist are key elements of the Mediterranean Diet.

Features linked to legal quality of a food product are closely connected with those of its safety as discussed at 5.8.3 below.

5.8.2.4 ORIGIN-LINKED QUALITY

The concept of quality is central in food sector due to its many forms, in particular with reference to the environment and to health. The signs of territorial quality are, among others significant elements which can often be traced back to tangible and also intangible values of the Mediterranean Diet, recognized based on their compliance with certain principles of production formulated in a specific set of regulations: Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), and Traditional Specialties Guaranteed (TSG). For PDO and PGI products, the (intangible) quality originates from the connection between product and territory, with a different level of intensity between the two marks: in the first case the entire production process shall take place in the area identified by the regulations and in the second case, the link with the territory, which is less strong, is added to by the reputation of the product. For TSG products, the mark denotes a recognition linked to the intrinsic specification of the product or process, consolidated by tradition and guaranteed by its registration in the European Community (quality of the materials).

The focus of the attention on the Mediterranean Diet as a nutritional model, starting with its acknowledgment by UNESCO as intangible heritage of humanity in 2010, with the subsequent resolution to include it in the list during the 8th session of the Intergovernmental Committee held in

Baku in December 2013, led to a series of national and local legislative interventions that attempted to promote and enhance its implementation. The first Italian example was Law no. 6 of 30 March 2012, issued by the Campania Region, which aimed to define plans for studying and disseminating a Mediterranean lifestyle with its barycentre in the Cilento community. This was followed by Law no. 45 of 23 September 2013 issued by the Calabria Region: “Interventions for the rediscovery of the Mediterranean Diet” which envisages the establishment of a dedicated Foundation and the implementation of actions designed to promote the Mediterranean Diet as a founding stone of the Calabrian dietary culture.

5.8.2.5 NUTRITIONAL QUALITY

In the age of globalization, there is a risk of losing the quality and identity of Mediterranean Diet typical products. The most popular foods in the Mediterranean Diet contain nutrients of a fine quality and take on a particular importance in the consumer’s diet.

Food nutritional quality can be identified in terms of:

- quantity, given by the quantity of chemical energy that it provides;
- quality, given by the combination of the nutritional elements contained therein.

Food nutritional quality is ensured on each level of the production process, starting from the choice of raw materials. Then, some treatments may influence the content in nutritional elements of a food: for example, heat can denaturalize the proteins, with a consequent loss of their organic properties. And a correct storage/distribution process plays a fundamental role in ensuring the chemical/nutritional quality of foods.

From a nutritional viewpoint, the Mediterranean Diet provides nutritive principles both in terms of quantity and quality and these correspond with those needed by an average person, as defined by the international food bodies.

5.8.2.6 SENSORIAL QUALITY

Food sensorial quality is provided by the consumer’s evaluation of some of its characteristics, such as its appearance, aroma and texture, perceived using the sensory organs.

For many, the consumption of foods is closely connected to an emotional satisfaction and in the definition of this category the attention is focused on the food’s ability to respond to sensorial requirements such as taste, odour, scent and appearance (the way in which a product is produced) and, in a more general sense, on the promotion of the hedonic components of the food.

It is therefore about the consumer’s subjective evaluations, which are notably influenced by psychological, social and cultural factors that therefore also have a close connection with the intangible aspects that characterize the Mediterranean Diet.

With the use of sight, food is appreciated for its colour, shape, size and also for how it is presented. Of the five senses the sight is the one that most influences the choice of a food and in turns conditions the other sensory organs.

The sense of smell perceives the aroma and odour of a food, which can be pleasant or unpleasant. The odour is due to the presence of volatile substances released by the food in our nasal cavity. Different types of odour exist and the odour perceived by one party is not always the same as the one perceived by another. The variety of scented molecules is very wide and this is mainly due to the different shapes that the molecules can form, the different functional groups linked to the main structure or the level of flexibility of the structure.

The sense of taste is used to perceive the bitterness, saltiness, sweetness and acidity of a food. All the other flavours are combinations of those listed above. The salty taste is mainly provided by the presence of the salts in alkaline metals (for example, sodium, lithium, iodine). The acid taste is due to the presence of hydrogen ions and the strength of the flavour is proportional to its concentration. The sweet taste is associated with the presence of hydroxyl groups linked to the main molecule. The bitter taste is associated with the presence of both inorganic and organic compounds (particularly alkaloids).

The sense of hearing is used, through the sound of chewing, to perceive particular characteristics that can indicate the freshness of certain food products (biscuits, cereals, etc.).

5.8.2.7 ENVIRONMENTAL QUALITY

With reference to both tangible and intangible values of the Mediterranean Diet referred to at clause 5.5.2, the environmental quality is represented by the use of eco-friendly and sustainable production methods, with recyclable or biodegradable packaging. Sustainable food production is defined as “a method of production that uses a procedure and systems that does not pollute, which preserves the non-renewable energy sources and natural resources, which is safe for the workers, communities and consumers and which does not compromise the needs of the future generations”.

The Mediterranean Diet constitutes a model that stimulates a change of paradigm in reference to the global food production methods, in order to minimize the environmental impact and sustain the world's ability to produce food in the future. Indeed, like other activities performed by man, food production contributes to the climate changes, to the scarcity of water, to the deterioration of the soil and the distribution of biodiversity. The level of environmental impact of food production is closely connected to the place and way in which the food is produced and to the local availability of natural resources, such as water and soil. Often there are compromises between the environmental factors and, to date there are no precise rules for determining whether one food product is more eco-sustainable than another.

To make food production more eco-sustainable and bring it consistent with the values promoted by the Mediterranean Diet, as identified by the European Commission and by the plans of eco-sustainability of food companies, it is advisable to:

- use natural resources efficiently;
- protect the quality of the natural resources;
- protect the marine resources;
- procure the ingredients for foods using eco-sustainable resources;

- use packaging with a low environmental impact;
- reduce food waste.

5.8.3 FOOD SAFETY

5.8.3.1 GENERAL

Based on the definition provided by the European Union and the WHO, food safety is a shared responsibility from the field to the fork and the Mediterranean Diet, with its tangible and intangible values, is an interesting example of this shared responsibility and of the connection between the food product and the territory.

More particularly, “food safety” is a synonym for the health and hygiene, and the nutritional and organoleptic quality of what someone eats, connecting it to all those food production, transformation, preparation and consumption processes that need to provide a guarantee of the related food quality.

Regulation (EC) 178/2002 settles the principles and general requirements of food legislation, establishing the European Food Safety Authority and laying down procedures in matters of food safety and animal feed as well.

The relevant rules concern all the segments of the supply chain, from the producer to the consumer, whether the food is produced in the EU or imported from extra-UE Countries. The system which guarantees safety is common to all the EU countries, but this does not mean that all the products shall be identical: diversity is permitted and indeed protected; there is also space for tradition and/or local specialties, which are protected as characteristic products, enabling them to be distinguished from their imitations. This is particularly important for Mediterranean Diet products.

5.8.3.2 MAIN FEATURES

EU food safety policy focuses on protecting the consumer, at the same time ensuring that the European common market regularly runs. Starting from 2003, this policy has focused on the concept of trackability both with regard to the incoming flows (for example, animal feed) and the outgoing flows (for example, the primary production, processing, storage, transportation and retail sale).

The EU has issued regulations to ensure the hygiene of foods, the health and wellbeing of the animals, the health of the plants and the control over the contamination by external substances, such as pesticides. Strict checks are carried out during each phase and the products imported (for example, meat) from third countries shall comply with the same regulations, and are also subject to the same controls as the foods produced inside the EU.

Food contaminants can be chemical, physical and biological.

The biological contaminants are the most frequent and these are microorganisms, including the pathogenic bacteria which cause illnesses following the ingestion of contaminated foods.

Some types of bacteria, when found in environments that are hostile to them, (especially due to a shortage of water), cover themselves in external protective wrappings (spores) which enable them

to last for long periods, even years (for example clostridium botulinum, the agent that causes botulism). Other bacteria, when multiplied, are capable of producing toxins (for example, staphylococcus aureus and clostridium botulinum).

Moulds are fungi that can alter foods, usually in a visible fashion. They develop in humid environments and also grow under refrigerated temperatures. Some species produce powerful poisons (mycotoxins). Mycotoxins are the toxins produced by certain fungi or moulds that develop in foods such as peanuts, walnuts or hazelnuts, corn, cereals, beans sprouts, animal feed, dry fruit and spices.

Meticulous control procedures and adequate storage conditions are important for preventing the development of mycotoxins. In terms of consumer protection, the national and international Organizations are constantly assessing the risk that these substances represent for human beings.

Microbial contamination of foods can occur at any time and in any point of the production chain, as the bacteria are dissemination the external environment: water, air, soil; in the working environments: rooms, plants, furniture, equipment, tools, garments; in animals and plants.

With reference to Mediterranean Diet products, there are repeated indications of an essential foreignness of the EC regulations regarding the production of the typical products to the principles that regulate the safety of foods, in some cases highlighting that the two elements can be directly opposed. The reasoning mainly used to support this statement is based on the diversity of the purposes pursued by the European legislator when dictating the related guidelines. Indeed, if the main basis of food safety is the protection of human health, in the case of the protection of the characteristic products, the legislative activity within the European Union is driven by the objectives of the agricultural policy and more specifically the need to transform the European agriculture from the producer of commodities to the producer of specialities and at the same time defend the typical products from the effects of mutual recognition.

The effort made by the legislator has been geared to promoting the aspects of the link with the geographical area from which the food is sourced, the traditional production methods used, and assimilating the local food and wine heritage with the cultural factors, all elements designed to create the conditions for preparing the consumers to pay a “premium price”.

5.8.3.3 LEGISLATION CURRENTLY IN FORCE

The first guarantee of safety is provided by controls. Typical productions, which are often a characteristic element of the products associated with the Mediterranean Diet, benefit from a wide range of provisions which leave a much stronger mark than the usual rules imposed for industrial productions. Indeed, as well as the ordinary vigilance designed to verify the compliance with the regulations in force operated by the Regions and by the bodies of the central Administrations (in Italy NAS and the Central Fraud Repression Inspectorate) additional activities are also performed to check the compliance with the guidelines (and therefore that the product meets the microbiological requirements etc.) performed by the Italian Ministry of Agricultural, Food and Forestry Policies (MIPAAF) as main reference person and materially by the public authorities and the private bodies appointed for this purpose.

Food hygiene is regulated by the so-called “hygiene package”, a set of EC acts, issued in 2004 and valid from 1 January 2006.

The main features on which the EC new legislation is based are as follows:

- integrated controls through the entire food supply chain;
- interventions based on risk analysis;
- primary responsibility of the operator in the sector for each product created, processed, imported, sold or served by the same;
- traceability of products along the supply chain;
- the consumer as an active part of food safety.

The “hygiene package” key regulations are:

- Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety
- Regulation (ec) no 852/2004 of the European Parliament and of the council of 29 april 2004 on the hygiene of foodstuffs
- Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin
- Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption
- Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.

The “applicative” regulations are:

- Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs Commission Regulation (EC) No 2074/2005 of 5 December 2005 laying down implementing measures for certain products under Regulation (EC) No 853/2004 of the European Parliament and of the Council and for the organisation of official controls under Regulation (EC) No 854/2004 of the European Parliament and of the Council and Regulation (EC) No 882/2004 of the European Parliament and of the Council, derogating from Regulation (EC) No 852/2004 of the European Parliament and of the Council and amending Regulations (EC) No 853/2004 and (EC) No 854/2004
- Commission Regulation (EC) No 2075/2005 of 5 December 2005 laying down specific rules on official controls for Trichinella in meat
- Commission Regulation (EC) No 2076/2005 of 5 December 2005 laying down transitional arrangements for the implementation of Regulations (EC) No 853/2004, (EC) No 854/2004

and (EC) No 882/2004 of the European Parliament and of the Council and amending Regulations (EC) No 853/2004 and (EC) No 854/2004

5.8.3.4 STANDARDIZATION

Standardization supports the current relevant legislation, representing for the agro-food industry organizations an effective tool ensuring them a higher level of reliability and for communicating product and production process typical features to consumers and customers.

UNI EN ISO 22000, applied on a voluntary basis by the operators of the food sector, has been developed in order to harmonize the pre-existing national and international normative references related to food safety and HACCP (Risk and Critical Control Point analyses). The main objective of UNI EN ISO 22000 addresses food safety management through systematic control of all the parties, both internal and external to an organization, involved in the food supply chain.

The traditional GMP and CCP control measures are redefined and replaced in three new categories designed to ensure the agro-food sector health and hygiene features. All this takes place by implementing strict controls throughout the global food chain, from the producer to the consumer's table, providing even higher levels of guarantee than those set by the rules and law in force.

UNI EN ISO 22005 sets out the principles and requirements for planning and activating a system of agro-food traceability. For the planning and creation of a traceability system, UNI EN ISO 22005 requires that the following items shall be included: objectives to be met; regulation relevant to traceability system; products and/or ingredients used throughout the supply chain; position of each organization in the supply chain; flows of materials; information to be managed; procedures; documents and arrangements for supply chain management.

The BRC Global Standard - Food, developed and published in 1998 to ensure that the products with this mark are obtained in compliance with well-defined reference quality standards and in compliance with minimum requirements, is one of the most widespread international tools with which the operators of the food supply chain qualify their suppliers to reinforce and promote safety along the global food supply chain.

The British Retail Consortium, a body that represents all the major retailers in the UK, has developed this technical document to help retailers to fully meet their legal obligations and to protect the consumer. They provide a common base for verifying all the companies that supply the retailers with branded products and require:

- implementation of an HACCP plan;
- documented quality management system;
- control of production environment, product, processes and personnel.

The aim of the International Food Standard (IFS) – 2007 is to favour the effective selection of the branded food suppliers of the large-scale retail market, based on their ability to supply safe product that comply with the contractual specifications and the legal requirements.

IFS is one of the food safety standards accepted by the Global Food Safety Initiative (GFSI), the main objective of which is to reinforce and promote food safety all along the supply chain. The standard identifies the specific elements of a management system focused on the quality and safety, as well as the hygiene and health of the products, referring to the HACCP methodology for the purposes of its planning and implementation.

In food industry, product certification has undertaken its own forms, such as the assessment of product quality and of intrinsic characteristics of some typical products of the Mediterranean Diet, through the collective brands and their own legal protective measures.

5.9 FOOD TRACKABILITY AND TRACEABILITY

5.9.1 GENERAL

“Controlled chain” and “chain traceability” are the two expressions that form the cornerstones of the agro-food chain. On one hand the guarantee of attesting the trackability of the product, upstream and downstream, and, on the other, the commitment of being able to rebuild and follow the pathway of a product, upstream and downstream, throughout the phases of the production, processing and distribution or, simply, within an organization.

In terms of trackability, two levels of application can be distinguished; one is mandatory, designed to ensure food safety and with the possibility of intervening at any time during the entire production and distribution chain, and to identify all the organizations that have contributed to the food production, essentially based on the conservation of the organization documentation and a voluntary level of trackability which, extending the contents of the same with a higher level of detailed information, makes available, under the surveillance of certification bodies, the information concerning the origin of the raw materials and other details not included in the legal provisions. Therefore, once again, the voluntary level is an extremely important complementary element of binding provisions in force for the fulfilment of the objectives expressed by the Commission in the “White Book” on food safety.

The European Union has established that, from 1 January 2005, the operators of the food sector shall be obliged to provide indications about the origins of the products to those who have participated in each of the production phases throughout the food chain. Meat, eggs, fruit and vegetables shall bear a series of information on the packaging which enables consumers to know about the history of a food, from its production to the table, making it “trackable”.

The set of information about “trackability” appears on the packages in the form of an alphanumeric code, a sequence of letters and numbers where each letter and each number has a precise meaning.

5.9.2 TRACKABILITY

The term trackability expresses the possibility of tracking back through the various phases of the production chain, to the origin of the raw materials of the end product. This can occur by way of a self-certification procedure carried out by the producer or, in a more expensive but scientifically more accurate way, by measuring certain chemical and physical parameters that are supposed to remain unchanged along the pathway that leads from the raw materials to the end product that reaches our tables.

Trackability is a tool which can be used to ensure food safety and protect the consumer, with a view to:

- a) ensuring food safety, with the possibility to intervene at any time, all along the production and distribution chain;
- b) identify all the organizations that have contributed to the production of a product, whether this is used as an ingredient or as an intermediate or end product.

A trackability protocol envisages a system of analytical checks for which the following aspects shall be indicated in a precise and detailed manner:

- products to be analysed and the point of the supply chain at which this will take place;
- sampling system;
- type of analysis and related methods;
- an analytical form to be filled in, its intended use and any processing performed on the data to recover useful information.

5.9.3 TRACEABILITY

While trackability is the possibility of getting to know the production process “from field to fork”, traceability is the inversion of the process, that is, the ability and possibility of dating the end product back to its origin.

“Traceability” is defined by Regulation (EC) 178/2002 as “the ability to trace and follow a food, feed, food-producing animal or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing and distribution”.

The aim is that of ensuring that everything entering the food chain (animal feed, live animals destined for human consumption, foods, ingredients, additives, etc.) preserves a trace of its history, following the pathway that goes from the raw materials up to the product provision to the end consumer.

Traceability consists in using the “footprints”, or rather the documentation gathered from the various operators involved in the production process, to isolate a production lot in case of emergency, so allowing the producer and the supervisory bodies accountable for the citizen food safety, to manage and monitor any safety hazards by gaining knowledge about the various production processes (flows of raw materials: documentation about their origin and intended use, etc.).

Until 2005, only some products were traceable, such as meat, fish and eggs, that is, those with a higher risk for the consumer health. From 1 January, 2006, when the “hygiene package” came into effect, the duty to ensure the traceability of foods was extended to all agrofood products, so enabling any product to be identified in all the phases of its production cycle.

The aim of this pathway of transparency is certainly to gain the consumer trust, not only in a specific product but in a more general sense in an intangible value such as the Mediterranean Diet one. As society today is increasingly digitalized and connected, and also considering the global nature of the

agrofood market, it is natural for us to turn to the ICT technologies to support the transparency process towards consumers consistent with the ratio that their “trust is just one click away”.

5.10 SOCIAL RESPONSIBILITY ISSUES

As for product quality and safety, it is appropriate to refer to the issues concerning social responsibility. Although it cannot be directly traced back to the production of a specific product, it is important to highlight that the voluntary compliance with documents defining criteria and guidelines geared towards the theme of the social responsibility of producers, packers, handlers, processors, and service structures, are relevant for anybody that complies with the principles of the Mediterranean Diet.

The implementation of a management system, whether this is certified or not by a third party, implies an undertaking of responsibility towards specific stakeholders by an organization, which automatically ensures the adoption of a precise procedure including a control, checking and continuous improvement system of its own for all its operations.

In particular, for any organization, adopting a quality management system is proof of its ability to supply products and services which comply with specific technical standards and designed to increase the satisfaction of the customer-consumer (UNI EN ISO 9001). Similarly, the implementation of an environmental management system demonstrates the organization commitment to minimize the environmental impact of the processes, products and services, attesting its reliability (UNI EN ISO 14001, EMAS, etc.) and also the health and safety at work management system to comply with the current relevant set of rules and standards, and develop policies of worker health prevention and safeguarding (UNI - INAIL, BS OHSAS 18001 Guidelines, etc.).

Even when leaving aside the other organizational systems, related to issues such as energy, maintenance, risk management etc. and also those intrinsic to the agrofood sector, related to trackability and traceability and those inherent to hygiene, salubrity and food safety, it is clear that the adoption and effective implementation of organizational systems, especially if these are integrated, not only favour compliance with the legal obligations, but also enable organizations to pursue a higher level of “social responsibility”.

UNI ISO 26000, as well as, in a more practical way, UNI/PdR 18, can be useful voluntarily applicable tools for organizations which decide to embark upon a pathway of social responsibility. Indeed, these documents clarify the meaning of social responsibility, help translate the principles into concrete actions and enable best practices to be shared on a global level

In particular, UNI ISO 26000 has been developed to help organizations to contribute to sustainable development by going beyond compliance with the law, promoting a common vision in the field of social responsibility and integrating other pre-existing tools and initiatives, creating synergies with the 17 Sustainable Development Goals of Agenda 2030 and gearing itself, in accordance with the European Commission, to incentivize the transition towards the circular economy to stimulate an economic and sustainable growth.

In coherence with the content of UNI ISO 26000, the need to promote a new lifestyle is highlighted. This shall be based on the principles of sustainability which require any organization to develop tools of social responsibility such as the code of ethics, the social balance, etc. These are

fundamental elements for those who wish to carry out their business by referring to and sharing the tangible and intangible values of the Mediterranean Diet (see Map of Europe on the sharing of Social Responsibility and Agenda 2030 for sustainable development of the United Nations).

5.11 SOCIAL AND ECONOMIC FEATURES OF THE MEDITERRANEAN DIET

5.11.1 GENERAL

While the Mediterranean Diet is finding great favour in all four corners of the globe, many layers of population also in the lands in which it was born and developed, are gradually abandoning this dietary model. It is therefore essential to launch a process designed to build a new vision of the Mediterranean Diet which on one hand enables its original popular value to be restored and, on the other hand, enables it to be re-proposed as a sustainable dietary model, that is, one capable of incorporating not only a nutritional value but also an environmental, economic, social and cultural one. Within the Mediterranean territory, a rich heritage of typical products has gradually been formed, with true excellencies from the world of food. Food and food products, with the related customs and processing and storage techniques, have formed the basis of the relationships and commercial and cultural exchanges for the populations of the Mediterranean, strengthening the relationships of the same around a wider identity. The foods linked to the tradition of the territory, which can be distinguished for their genuine nature and wide variety, are excellences obtained also thanks to the good quality of the environment in which they are cultivated. These resources are an important economic sector for Italy.

Adopting the Mediterranean Diet promotes dietary habits that allow to improve the state of general health of the population, with a significant reduction in the expenditure of national health services. In particular, following the Mediterranean Diet means favouring seasonal foods, mainly cereals and vegetables, with a consequent reduction in the amount spent on food. Favouring the dissemination of the Mediterranean Diet model means increasing the commercial demand for natural products (fruit, vegetables, cereals, legumes) and their derivatives (oil, wine, pasta, bread), creating income and employment for companies that operate in the sector.

The dissemination of the Mediterranean Diet also promotes the offer of the agro-foods and wines from our territories, helping to develop sustainable tourism all year long. The effect of a food demand that is congruent with the Mediterranean Diet indeed has the effect of promoting the typical landscape of the Mediterranean area, its particular and secular identity (due to its prevalent vegetable, cereal, vine and olive crops, etc.), with the consequence of improving its ability to attract.

On the other hand the dissemination of the Mediterranean Diet as a diet characterized by a low per capita cost is an additional initiative for eradicating poverty.

5.11.2 ECONOMIC BENEFITS OF THE MEDITERRANEAN DIET

5.11.2.1 ECONOMIC BENEFITS ON A NATIONAL LEVEL

A recent OECD study indicates that the increase in expenditure destined to assist healthcare has helped to improve the life expectancy, but other factors such as the changes in lifestyle and education are also very important, making an essential contribution to the management of the economic resources in the sector of healthcare aid. It is possible to make further progress in the conditions of health and life expectancy of the population by placing greater emphasis on public

health and on the prevention of illnesses, promoting responsible, sustainable consumption based on the principles of the healthy, well-balanced food of the Mediterranean Diet. Chronic (non-contagious) diseases such as cancer, the cardiovascular illnesses, chronic respiratory illnesses and diabetes are now the main causes of disability and death in the countries of the OECD, many of which can be avoided, if connected to lifestyles that can be changed. Non-smokers who drink moderate quantities of alcohol, are physically active, follow a balanced diet and are not overweight or obese are exposed to a much lower risk of premature death than those with unhealthy habits (OECD data, betterlifeindex).

The indicators used by the OECD to determine the level of health of the populations have been taken and integrated by ISTAT (Italy's National Statistics Institute) to construct the indicators of Equitable and Sustainable Wellbeing (ESW). In relation to the Mediterranean Diet, the composite indicator of health uses, among others, the following values for its exploratory analysis:

Excess weight: Standardized proportion of people of 18 years old and older who are overweight or obese, compared with the total number of people of 18 years old and above. The indicator refers to the classification established by the World Health Organization (WHO) for the Body Mass Index (BMI: relationship between the weight in kg and the square of the height in meters).

[Source: Istat, Survey on Aspects of daily life]

Diet: Standardized proportion of the people of 3 years and older who consume at least 4 portions of fruit and/or vegetables each day compared to the total number of people of 3 years old and above.

[Source: Istat, Survey on Aspects of daily life]

The economy of nutrition, which emerged recently with studies on the Mediterranean Diet and a healthy lifestyle, connects the benefits of dietary behaviours in the context of the economy of health, offering a better understanding of the absolute and related impacts deriving from dietary habits, bearing in mind the genetic predispositions of the individuals, but also the improvement of the conditions of health and the reduction in deaths due, mainly, to cardiovascular illnesses. Specifically, the impacts are assessed in relation to the higher consumption of fruit and vegetables, wholewheat flours, legumes and nuts, a moderate consumption of yogurt and dairy products, white meats and eggs and a reduced consumption of red meat. Additionally, the contribution of vitamins and other nutrients made by extra virgin olive oil and the moderate consumption of wine is also evaluated (one glass per day).

The models of estimation used in literature for the evaluation of the avoided and/or avoidable costs for healthcare in relation to the implementation and promotion of the Mediterranean Diet, are based on the study of the relations between:

- (1) the proportion of individuals on a national scale who follows the Mediterranean Diet model;
- (2) the incidence of the reduction of chronic, non-contagious illnesses in relation to the Mediterranean Diet;
- (3) potential reductions in the public expenditure for healthcare.

The methods proposed in the studies of the economy of nutrition provide encouraging results, showing the economic convenience on a national level of promoting the Mediterranean Diet,

benefits that add to those of an environmental/ecological nature and to the benefits enjoyed by individuals in terms of improved health and quality of life.

5.11.2.2 SUSTAINABLE DEVELOPMENT OF THE LOCAL ECONOMIES

The sustainable dietary models are defined as such for their low environmental and economic impact, providing an adequate diet from the nutritional point of view, production systems that are compatible with the conservation of biodiversity and the ecosystems and contributing to food security (FAO, Food Security Index, 2011). The Agenda 2030 of the United Nations for sustainable development and the Sustainable Development Goals highlight the importance of the sustainability of the production and food consumption systems. The adoption of the Mediterranean Diet on a large scale contributes directly to the accomplishment of the Goals 1 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”, 3 “Ensure healthy lives and promote well-being for all at all ages”, 12 “Ensure sustainable consumption and production patterns”. Fair access to food security and adequate nutrition is one of the priorities undertaken on a global level by the United Nations (UN-Habitat, 2016), which highlight the synergic role of the urban- rural system in improving resilience to sources of ecological, economic and social stress.

The indicators identified by Barilla Centre for Food and Nutrition to be used for the estimation of the economic sustainability linked to the production cycle of foods are the Carbon Footprint (kg CO₂ eq/Kg of product), Water Footprint (liters/Kg of product) and Ecological Footprint (m²/Kg of product) (BCFN, 2011). The weekly environmental impact of the Mediterranean Diet is significantly lower than a hyperproteic diet for all the indicators and this difference is confirmed if compared with the real consumptions of the Italian population in the ISTAT data for 2013. The reduction of the environmental impact of food production is directly linked to a reduction in the costs that can be estimated using direct and indirect monetary techniques (market-based, estimate of the costs that have been avoided, estimate of the replacement costs).

The production systems, influenced by the dietary habits of the population, have a direct impact on the sustainability of the use of the lands. The reduction in the environmental costs, to be assessed bearing in mind the different typologies and classifications of the use of the lands, can ensure economic benefits on a local level, reducing the negative external effects of the agro-food productions and intensive farming. The circularization of the production-consumption-use of agrofood waste brings about a further saving in terms of energy and materials, which is transformed into an environmental and economic benefit (the food sector accounts for 30% of our total energy consumption and is responsible for 22% of the emissions of greenhouse gases; UN data, SDGs).

The typical local agrofood productions are an economic sector which is growing fast in Italy, benefiting from national and European incentives and financing and positioning itself on the markets with a competitive edge. Additionally, the typical productions carried out with traditional and sustainable techniques help to reduce the phenomena of soil deterioration, drying out the soil, and non-sustainable use of water.

The Common Agricultural Policy (CAP), due to its direct effect on agricultural activity, plays a deciding role in the intense transformation of the landscape. As a result, the application of specific measures of the CAP, with effects on the attributes of the landscape, can create social and economic benefits, not only for the farmers as the direct beneficiaries, but also through the production of services used directly by the consumers or that help to generate satellite economic activities. The European Landscape Convention declared that the promotion of this resource is one

of the most important challenges which shall be met by the national and EC policies; the CAP adopted this objective as its own and with multi-functional agriculture being fully acknowledged with Agenda 2000 and then further strengthened with the Fischler reform and the Health check, it identified the conservation and promotion of the landscape as one of the main objectives to be fulfilled.

The use and management of lands also has a direct impact on the landscape: typical and traditional production contribute to the construction/generation of the landscape, improving the wellbeing of the individual. The ISTAT indicators of Equitable and Sustainable Wellbeing (ESW) identify the quality of the landscape as one of the components of individual wellbeing. The composite indicator of landscape and cultural heritage relies, among other things, on the following indicators for the exploratory analysis:

Erosion of the countryside from urban sprawl: Percentage of the total agricultural areas in the region affected by the phenomenon.

[Source: Analysis of Istat data, General agricultural census, General population and home census, Territorial bases of the censuses]

Erosion of the countryside due to abandonment: Percentage of the total agricultural areas in the region affected by the phenomenon.

[Source: Analysis of Istat data, General agricultural census, General population and home census, Territorial bases of the censuses]

Presence of historical rural landscapes: Normalized scores assigned based on the number and spread of the sites included in the census in the National Register of Historical Rural Landscapes.

[Source: Processing of data from the Ministry of Agricultural, Food and Forestry Policies, National Register of Historical Rural Landscapes]

Assessment of the rural development planning quality (regional HRLs) in relation to the protection of the countryside: Scores assigned to the HRLs for the measures implemented in relation to rural landscape within the National Strategic Rural Development Plan 2007-2013.

[Source: Ministry of Agricultural, Food and Forestry Policies, Landscape and Rural Development. The role of landscape in the Rural Development Programs 2007-2013]

The indicators of the ESW provide an essential, innovative tool for assessing the national and local productivity using an interdisciplinary approach that integrates and provides better results than the economic assessments based only on the GDP indicator.

Additionally, as far as biodiversity is concerned, it is to be stressed that to maintain the consistent heritage of biodiversity of Italy, defined as both the agricultural biodiversity (conservation/recovery of native seeds, variety of the cultivate species) and also natural biodiversity (maintenance of the ecosystems and habitats, fertility of the lands, natural pollination, quality level of the groundwaters), it is important to incentivize the agricultural practices designed to reduce the loss of biodiversity and maintain the traditional agricultural landscape. These practices are directly connected to an increase in the demand for local, zero mileage agricultural products with a high nutritional quality, determined by the large-scale implementation of the Mediterranean Diet..

5.11.2.3 ECONOMIC BENEFITS ON AN INDIVIDUAL LEVEL (FAMILY ECONOMIES)

The dietary model of the Mediterranean Diet has a positive effect on the family economies, reducing the Monthly Family Expenditure in comparison with models based on hyperproteic diets. Studies by the Italian Society of Human Nutrition estimate the weekly cost per person of a hyperproteic diet as €67.72. This cost for food shopping is reduced by 55% when a healthy lifestyle based on the Mediterranean Diet is adopted (source: Anon 2016, Nutrition & Health Journal Club).

The ISTAT 2013 data identify the actual monthly cost sustained by Italian families for food shopping as essentially comparable to the monthly cost that would be sustained by following the Mediterranean Diet, despite identifying significant differences in the consumption of some categories of foods classified by ISTAT: meat, potatoes, fruit and vegetables, milk, cheese and eggs. Therefore, the estimable costs of changing to a dietary model based on the Mediterranean Diet would not affect the family economies, which would instead register a saving that could be more or less significant depending on the dietary model currently in use.

In conclusion, it is possible to state that the economic benefits of adopting a dietary model based on the Mediterranean Diet on a large-scale are significant and can be estimated using indicators, both nationally speaking and also at the level of the regional and family local economies.

6 KEYPOINTS FOR PROMOTING THE MEDITERRANEAN DIET

6.1 TRAINING AND INFORMATION

A key element for ensuring a true dissemination and creating “occasions” for promoting the Mediterranean Diet. Rather than indicating foods or providing recipes, the purpose of promoting the Mediterranean Diet is that of performing shared, common actions to encourage people to follow the Mediterranean lifestyle. The interest of Local Authorities in particular shall focus on food education as the key tool for ensuring wellbeing. By now there are many examples of these courses of action, but what instead is lacking is a “global” approach to the problem. The Mediterranean Diet can also provide an opportunity to discuss sustainable behaviours and therefore also involve the other aspects linked to the concept of sustainability to be promoted and formed. Communication strategies can also provide new opportunities to participate in the concrete construction of a model which, due to its very nature, does not respond to a rigid determination, but presents the advantage of making use of the variety of the products and the biodiversity from which it draws its strength.

Indeed with reference to the requirements of agro-food production, designed above all for eco-sustainable productions and the need for health geared towards prevention and treatment of chronic degenerative illnesses, the Mediterranean Diet is a simple, effective, widely appreciated application. This generates the need to ensure it is continuously scientifically updated and disseminated culturally both by training the production operators and selling the products of the agrofood sector, the catering industry (hospitals, companies, schools or social locations) and family food sector.

Training and information are crucial aspects for the Mediterranean Diet. It is essential to disseminate the culture of the Diet to ensure that its values will be handed down to the future generations. The Mediterranean Diet encompasses a set of social, cultural, environmental characteristics and others still, linked to health and wellbeing. For these reasons, promoting the awareness of the Mediterranean Diet means living a healthier, more well-balanced life.

In order to promote the Mediterranean lifestyle represented by the Mediterranean Diet, the model proposed is based on the methodological approach identified in this UNI/PdR, with the objective of assessing whether the actions and/or activities carried out by public or private parties present within the national territory can be considered congruous with the principles and values of the Mediterranean Diet. Therefore, for each of the fields previously identified (lifestyle, food and nutritional sciences, cultural identities, food security, safety and health, environment and landscape, economy, medical, scientific-statistic) criteria have been defined for the evaluation of the activities of public and private companies, public authorities, operators in the agrofood-agroindustrial sector, the school, and their adherence to the Mediterranean Diet.

As for “lifestyle - food and nutritional sciences and identitarian cultures”, a company, an authority or an agrofood operator are to be considered compliant with the principles and values of the Mediterranean Diet, if their products or activities have a cultural value which is recognized by the community. Again in this sector, particular importance is assigned to the promotion of local identities, handing down knowledge, training and the dissemination of information concerning the Mediterranean Diet.

In relation to the “environment - territory-landscape”, the estimation of the activities of the parties involved in the assessment process can be carried out by way of evaluating the environmental impact of their production processes, the maintenance of certain production techniques and the respect from the Mediterranean countryside. In this field, particular significance is assigned to the conservation of agro-biodiversity, to maintaining and conserving the native species, and to the responsible management of production waste.

In terms of “economic features”, those evaluated will include the ability to create work and employment for the members of the local community, the propensity for investment, both for the company development and for the positive external effects for the local economy, the promotion of the territory, the communication with the end consumer, the investment in the production in the use of typical and traditional products of the Mediterranean Diet.

As for “food safety and health”, the elements being evaluated are the compliance with certain criteria such as the traceability of the products, the transparency with regard to the information reported in the label, regarding the nutritional quality of both the fresh and processed product, the nutritional indications for the consumers for a healthy, well-balanced diet in accordance with the values and principles of the Mediterranean Diet.

6.2 BIODIVERSITY AND SUSTAINABILITY: CORNERSTONES OF THE MEDITERRANEAN DIET

The Mediterranean Diet is a sustainable model of diet and, indeed, one of the most sustainable dietary models for the environment and health, as confirmed by a wide range of scientific evidence. Sustainable diets are those which have a low environmental impact, thus contributing to food security and to a healthy lifestyle for current and future generations.

As is known, sustainability is based on three essential cornerstones: environmental, economic and social.

According to some ongoing studies, the Mediterranean Diet can be considered relevant also for another cornerstone of sustainability that can be defined as social and cultural. Indeed, it is not only

a healthy, well-balanced diet with a lower environmental impact, but also expresses an entire lifestyle. The populations who follow this diet associate the consumption of food with its sharing, with conviviality, a certain set of rituals and the ability to establish human relationships. And in addition to its salubrity, it is also for this reason that the Mediterranean Diet was recognized as Intangible Cultural Heritage of Humanity in 2010. Today all our efforts should be concentrated on trying to strengthen such a virtuous dietary model, defending it from diets with a larger commercial impact but certainly further away from a healthy, modern lifestyle.

A sustainable diet respects the biodiversity and the ecosystems, is adequate from a nutritional point of view and efficiently uses the natural and human resources available. Its many benefits are linked to the composition of its characteristic foods, which mainly come from plants (fruit, vegetables, legumes and cereals) and to their diversified and well-balanced consumption.

Biodiversity is the pillar for the life on our planet and we shall strive to conserve it with all our efforts as it is a universal heritage. Conserving our biological diversity is, first of all, a moral duty towards our current and future generations, so that they can fully benefit from it in the years to come. In the countries overlooking the Mediterranean, one of the main eco-regions of the planet, which, thanks to its rich biodiversity, proves to be one of the most important ecosystems in the world, there is a widespread awareness of the social, cultural, healthy and economic dimension of “food”, shared by all the populations in the area.

The diversity of the food cultures of the Mediterranean, like many elements of the Mediterranean Diet, are currently at risk of extinction due to globalization, the homologation of lifestyles, the loss of awareness, or meaning, of understanding and appreciation, which lead to the Mediterranean crumbling away and the new generations’ lack of interest in their heritage. It is strategic, both with regard to wild species and domestic species (varieties and races). The interactions between the various species and the environment are also strategic.

The intense loss of biodiversity we are witnessing today is also undermining the Mediterranean Diet. Indeed, biodiversity ensures variegated foods, which please the palate and have a valid nutritional profile, ensures production systems (think of climate change) that are resilient and capable of withstanding diseases and insects. Diets that are not very varied are closely linked with the increase in non-contagious illnesses such as diabetes and cardiovascular problems. Additionally, to date, the problem of feeding the ever increasing world population has mainly been tackled by providing greater quantities of food, whereas the speed with which the world is losing its biodiversity and the ecosystems are deteriorating is a matter of fundamental importance for the future of our agricultural and food systems. In addition to conserving biodiversity, sustainable diets enable us to consume food with a smaller environmental footprint in terms of use of water resources and CO₂, help to preserve local and traditional foods, with their many varieties which are also important from the nutritional point of view.

The Mediterranean Diet is rich in biodiversity and nutritionally healthy. It is acknowledged as being one of the healthiest dietary systems due to the variety of its cultural heritage, its biodiversity and the value of nutritional wellbeing associated with it. The concept of Mediterranean Diet, as already stressed several times, goes far beyond its value as a “diet” and presents itself as a true sustainable cultural system. Indeed, the way in which we nourish ourselves is linked to the culture of a community: to its uses and customs, history and economy. The way in which we nourish ourselves also reflects the local availability of products and practices that are handed down through the

generations, obviously with several changes over time dictated by the changes in taste, but especially to the historical and cultural experiences of the country.

The Mediterranean Diet brings environmental, social and economic benefits, summarized as follows.

a) Environmental benefits:

- *Use of natural resources.* The Mediterranean Diet envisages a high consumption of cereals, fruit, vegetables and legumes, the production of which requires the use of less natural resources (land, water) and fewer greenhouse gas emissions than a dietary model mainly based on the consumption of animal meats and fats.

- *Seasonality.* The Mediterranean Diet envisages the consumption of foods when these are in season. This leads to a reduction in the number of crops cultivated in greenhouses and in the relative environmental impacts, and also reduces the need for procurement and the transport costs from faraway countries (foodmiles).

- *Biodiversity.* The Mediterranean Diet respects the territory and biodiversity, by sowing different crops in each area and rotation the same, in order to also ensure food security.

- *Frugality.* The Mediterranean Diet envisages moderate portions and the consumption of wholegrain, fresh products which have undergone little processing. Both the quantities consumed and the fewer transformations undergone by the foods help to reduce the environmental impacts of the dietary habits.

b) Social benefits:

- *Health.* The Mediterranean Diet, together with physical activity, helps to prevent cardiovascular illnesses, diabetes and certain types of tumours (colon, rectum, breast, prostate, pancreas, endometrium). Additionally, the consumption of fresh, wholegrain foods means that micronutrients and antioxidants are more widely available and used.

- *Awareness.* The Mediterranean Diet promotes a greater awareness in distinguishing diet from nutrition and reinforces the link with the territory and cultures of the Mediterranean, the awareness of the seasonality, biodiversity and naturalness of the foods.

- *Conviviality.* The Mediterranean Diet promotes social interaction, meals eaten in the company of others are the cornerstone of special occasions and of our social traditions, of the conveyance of practices and knowledge from generation to generation.

- *Identity.* The Mediterranean Diet is the expression of the entire historical and cultural system of the Mediterranean. It is a dietary tradition that dates back thousands of years, handed down through the generations and not only promoting the quality of the foods and their territorial identity but also the local identities and the dialog between communities.

c) Economic benefits:

-*Health care costs.* Greater adherence of the population's dietary habits to the Mediterranean model would improve its general state of health, leading to a reduction in the national expenditure on health care.

- *Family expenditure.* Adherence to the Mediterranean Diet model, favouring seasonal foods and mainly cereals and vegetables, would enable families to reduce the amount spent on food.

- *Business enhancement.* The dissemination of the Mediterranean dietary model would lead to an increase in the commercial demand for natural products (fruit, vegetables, cereals, legumes, oil and wine, fish...) and their derivatives (pasta, bread...), creating income and employment for the agrofood companies.

- *Promotion of the territories.* The dissemination of the Mediterranean dietary model would enhance the range of agricultural products, wines and food offered by our territories, helping to attract tourists all year round, thanks also to the landscape and biodiversity.

6.3 ACTIONS FOR PUBLIC ADMINISTRATION

An educational, pedagogic approach to the diet is fundamental. If diet is another word for "behaviour", the entire system of public intervention shall incentivize this strategy. For Local Authorities and, in particular, the Municipalities, Metropolitan areas, Provinces, Mountain Municipality Associations, it can provide opportunities for meeting the families and young people using the skills present in the area. The promotion of initiatives in schools can be an essential resource to use for creating opportunities for horizontal meetings and above can provide the structure for experimenting and participating in the concrete creation of the model. Bottom up initiatives shall be promoted in every way (financing, incentives, public calls for applications). On this level, the regional public administrations can also launch true medium-term strategic plans for coordinating, with measurable criteria, a virtuous process designed to move closer to the principles set forth by the Mediterranean Diet. In this sense, the Rural Development Plan (RDP) could also contain actions to support the Mediterranean Diet, also enabling the business system to perform better in terms of complying with the principles intrinsic to the Mediterranean Diet.

From this viewpoint, in order to be compliant with the principles and values of the Mediterranean Diet, Public Administration shall assess the presence, among other elements, of the following activities or actions:

- a) launching partnerships with public or private, national and international bodies and/or organizations, for studying and disseminating the culture of the Mediterranean Diet in the world;
- b) promoting and supporting clinical and epidemiological research to evaluate the dietary habits of the new generations;
- c) promotion and support of anthropological, historical, linguistic, dialectic studies on the intangible dimension of the Mediterranean Diet, with equal reference to the production, distribution and consumption;
- d) launch of press campaigns to sustain the Mediterranean Diet as a non-drugs based

preventative tool;

- e) engagement of all kinds and levels of school in the study of the components of food and their role in human nutrition, as well as in the cultural aspects of nutrition;
- f) regular promotion in Italy and other Mediterranean countries, conventions, meetings and courses on the theme of the Mediterranean Diet;
- g) promotion, through calls for applications and financing, of studies and research designed to increase the awareness about the components of the Mediterranean Diet and its cultural, intangible and historical elements, as well as those related to its language and dialects;
- h) promotion, through calls for applications and financing, of studies, research and business projects focused on sustainable development and the struggle to eradicate waste starting from the principles of the Mediterranean Diet, favouring those that involve parties of different nationalities, generations and have a significant female component;
- i) promotion, through calls for applications and financing, of studies and research to improve the hygienic and nutritional qualities of the various components of the Mediterranean Diet and, if possible, to transform them into new products;
- j) promotion and dissemination of the culinary and fine food and wine knowledge and traditions, but also those relative to the cultivation, harvesting, fishing and breeding systems, to ensure that the traditional knowledge connected with the Mediterranean Diet and its specific methods of interaction with the countryside are passed on;
- k) assist producers and companies that adhere to this UNI/PdR when recovering funds to ensure the coherence of their business activities with the principles of the Mediterranean Diet, also enabling consumers to afford their products at a congruous price.

6.4 ACTIONS FOR AGRICULTURAL PRODUCERS AND AGROINDUSTRIAL COMPANIES

The modernization of the agricultural sector in Italy was launched with the introduction of the law designed to provide guidelines for agriculture in 2001.

Multi-functionality, trackability and traceability, zero mileage, alliance with the consumers, direct sale and quality become the drivers behind a new level of responsibility of the agricultural company, in ensuring salubrity, authenticity, food safety for the products that reach the consumer's table on a daily basis.

An agriculture that can be considered successful, and which has grown over the last years, in which a true explosion of agricultural companies has taken place, adding services and products to the mere activity of cultivating and raising animals.

Over the last three years, the number of companies that process their own products has doubled and those which produce renewable energies have increased six-fold.

The direct sales channel has seen a true boom in the formula of the "farmer's markets", which place the farming businessman as a reference point in a renewed relationship of trust with the consumer.

Original initiatives such as agri-wellness, agri-chefs, activities involving the reuse of agricultural waste, agri-kindergartens and pet therapy are only a few examples of how agriculture meets the needs of society today. This course of action has been possible thanks to the great effort invested in renewing Italian agriculture, where one company in three established over the last 10 years focuses closely on the multi.-functional role of agriculture. [Source Coldiretti].

Italian Legislative Decree no. 228/2001, issued to provide guidance, made this Copernican revolution possible, opening the confines of the farm to new and creative opportunities, which a growing number of young people are proving they know how to grasp. And it is based on this result that we shall imagine an additional effort on the part of the agricultural world which, supported by science and applied research, is capable of encouraging, sustaining and guiding the use of the many applications connected with the development of technological innovation, and in particular of ICT, also considering the large amounts of financing destined by the 2020 plan to broadband in the rural areas.

This process of innovation can take advantage of the Mediterranean Diet, using it as a reference model in a new coordinated approach of *governance* thus allowing to overcome the contradictions of those new demographic, social and consumption models that enhance lifestyles which appear to be healthy but in fact harm the wellbeing of the populations.

Although an attempt of the population to drift away from the Mediterranean Diet can be perceived as deliberate, this is rather a consequence of the continuous evolution of a globalized social and economic context, which pushes the preferences and behaviours of the consumers in other directions.

The processes and operational models that enable the virtuous values of the various components of the Mediterranean Diet shall be developed, analysed and modernized for this very purpose, so that they return to represent that lifestyle and dietary model which, in an outlook characterized by flexibility and compatibility with the evolutions in force, can be used by these and our future generations.

Agricultural and agroindustrial companies can be guided along a pathway enabling them to make the most of different supply chains and products that together constitute a strong nucleus responding to the model of the Mediterranean Diet. It is not at all difficult to see industrial production as part of this process, if we also stop considering it in terms of costs and price only but also in terms of the nutritional values it brings to the free choice of the individual.

Indeed the players shall strive to implement a sustainable management system throughout the supply chain - production, processing, distribution, sale and marketing.

The supply chain shall activate courses of communication and involvement of the local community, helping to create channels for communication and dialog on themes linked to the production activities, its impacts and external effects.

Since the Mediterranean Diet also means maintaining local culture and traditions in the long-term, its typical and traditional products shall be promoted as identitarian elements and efforts shall be made to hand their value and the knowledge linked to these products down to the new generations.

In such a context, a company may be considered as observing the Mediterranean Diet values and principles, if, among other things, it:

- a) respect the seasonal nature of production, the rotation of crops and allow land to lie fallow;
- b) introduce farming practices for the recovery of native species to maintain the biodiversity of the productions;
- c) they strive to achieve sustainable development and to respect the environment, basing themselves in the principles of the Mediterranean Diet;
- d) adopt and publicize quality standards of their productions, favouring the distribution of the same on local markets and direct sale;
- e) use packaging forms based on the reuse and full biodegradability of the materials which can also be used to provide information about cultural features of the product (e.g. producers, territory, history, knowledge, traditions);
- f) favour the retail sale to the public, in particular highlighting their role as a multi-functional company, also by directly involving the consumers in the practices of harvesting and processing the products;
- g) perform actions designed to increase the awareness of the citizens/consumers about the territory and the context in which the operators of the agricultural sector work;
- h) favour the involvement, communication and dialog with the local community, to activate a circular economy that focuses on making the most of the territory, by reducing waste and garbage and promoting recycling and reuse;
- i) promote the local identity and the handing down of the traditional knowledge to the new generations, also involving parties and communities of other origins or nationalities;
- j) favour the maintenance and dissemination of traditional production and processing methods and of the ancient recipes of the Mediterranean Diet, also by acquiring ingredients, methods, recipes from other countries that represent the Mediterranean Diet;
- k) avoid waste and undertake to make the products available to everyone (complying with this UNI/PdR shall not be a way of selling products at a higher price but instead shall coincide with an ethical commitment: disseminating and making available this healthy dietary practice in as democratic a way as possible).

6.5 ACTIONS FOR SCHOOLS, UNIVERSITIES, TRAINING AND RESEARCH BODIES AND ORGANIZATIONS

Research should follow the model of the Mediterranean Diet also as far as the innovation of technologies and products is concerned. Universities and research, in general, can be incentivized to create new opportunities for reflecting on and comparing the model, favouring innovative and sustainable choices. Additionally, schools, universities and research centres follow the principles and values of the Mediterranean Diet if they carry out actions that enable students and workers to follow the lifestyle of the Mediterranean Diet, providing structures where it is possible to exercise,

encourage people to come together and socialize, and offer catering services only based on agricultural productions and dishes that respect the traditions of the local food culture.

In order to promote the dissemination of the Mediterranean Diet, school and, in general, the organizations appointed to provide training and perform research, can say that they adhere to the principles of the Mediterranean Diet if they carry out, among others, the following actions:

- a) choose a service based on fresh, seasonal, zero mileage products when assigning the management of the canteen services for schools and the contracts for the provision of foods and agrofood products to crèches, kindergartens, elementary schools, junior and senior high schools;
- b) structure the school routine by dedicating sufficient time to the enjoyment of food and envisaging festive occasions that focus on conviviality, as fostered by the Mediterranean Diet;
- c) promote all forms and methods of physical activity as an essential part of the lifestyle and of the healthy diet that characterizes the Mediterranean Diet;
- d) launch educational programs geared to foster the acquisition of notions and guidelines for disseminating the Mediterranean Diet, encouraging a transversal dietary education in terms of the scientific, historical, geographic, cultural, anthropological, linguistic, ecologic, social and psychological aspects linked to the relationship of individuals and groups of people with food; without neglecting the battle to eradicate food waste, with activities focused on the reuse and recovery of food;
- e) initiate sufficient training programs for teaching staff regarding the themes of the Mediterranean Diet, in particular in crèches, kindergartens, elementary schools, junior and senior high schools,
- f) favour the relationship between food and health, food, nature and the territory and food, culture and society, using specific educational programs (in an outlook geared to favour prevention), involving the family and the local territory, by way of inter-cultural and inter-generational meetings based on food, with a view to raising the population's awareness as consumers/citizens, also by reading the product labels in an intelligent way;
- g) launch educational programs designed to favour the production, distribution and consumption of foods, also by setting up teaching gardens and programs for the recovery of gardens and public areas;
- h) promote the choice of healthy dietary habits and the awareness of the agrofood system and its impact on the economy and the environment.

In particular, research centres and Universities can state they adhere to the principles of the Mediterranean Diet if they perform initiatives designed to:

- a) offer, in the range of university courses, lessons dedicated to the correct adoption of the Mediterranean Diet and its intangible cultural dimension in its various geographical (national, regional, international) and regulatory (anthropological, cultural, historical, linguistic, etc.) fields of scope;

- b) promote the theme of nutrition and its connections with the health of the individual especially on the part of the Italian scientific institutes who work in this field;
- c) identify and develop specific programs, structured in lessons and practical sessions, in the Faculties in relation to the multidimensional nature of the Mediterranean Diet;
- d) foster an increasingly detailed knowledge of the interactions between food and the human being, in particular in the age of development;
- e) encourage the production of studies and research, also in the form of degree dissertations post graduate theses on themes regarding the Mediterranean Diet;
- f) promote cultural exchanges in order to also acquire and disseminate awareness of the Mediterranean Diet abroad;
- g) introduce menus respecting the Mediterranean Diet into university dining services to encourage correct dietary habits by setting up an effective model for the promotion of health and the prevention of chronic degenerative illnesses and their main risk factors;
- h) promote activities of moderate physical exercise in the open air;
- i) promote the role of innovation and experimental research in research doctorates so that innovative tools and ideas which are useful for consolidating the principles of the Mediterranean Diet and making them fully operational can be defined.

6.6 ACTIONS FOR RESTAURANT OWNERS AND MASS CATERING SERVICES

Today the drastic changes in lifestyle and dietary habits, with people having less time to dedicate to purchasing and preparing food, have created the need to eat at least one meal outside the home, using restaurant and catering services. Over the last twenty years, as identified by the latest data of the Study centre of the FIPE (Italian Federation of Public Businesses), the number of Italians who lunch out on a daily basis has doubled. Restaurant managers should promote natural healthy foods, and carefully vet the suppliers from whom they buy foods. In order to safeguard the health and wellbeing of consumers when eating out, restaurant owners shall always attempt to serve products belonging to the Mediterranean Diet.

When talking about “eating out”, we mean, in the strictest sense of the word, the mass catering industry (company, hospital and school catering services) and commercial catering outlets (public businesses such as bars, restaurants etc.). Mass catering, especially the one connected to the new working rhythms, can be quite easily incentivized to acquire the model of the Diet in the range of products on offer. A correct diet subjected to the assessment of customers can be an extremely useful tool for the entire industry. Offering or being part of the Mediterranean Diet means sharing several specific objectives in a way that extends the possibilities offered by the range within well-defined codes of balance and sustainability. For these reasons, restaurant owners and catering businesses can state they comply with the Mediterranean Diet principles if they:

- a) propose catering activities using fresh ingredients;
- b) offer dishes that respect the local food traditions, but also recipes from other food traditions, in Italy and abroad, which come under the Mediterranean Diet and combine the

various different traditions in a range of foods on offer in accordance with strict codes of balance and sustainability;

- c) use the products and specialties of the Mediterranean Diet;
- d) inform the consumer about the “Mediterranean” origin of the ingredients and raw materials that they use;
- e) promote with specific menus inspired by the principles of the Mediterranean Diet, informing people about the nutritional quality of Mediterranean products and their relative cultures of origin;
- f) make the best use of the products, especially with regard to their seasonality, and the culture of the territory also by holding cultural and informative activities;
- g) counteract waste, promoting recycling and saving, formulating new food dishes and/or recovering old traditional recipes;
- h) use methods of preparation that respond as effectively as possible to the nutritional requirements of the Mediterranean Diet, in particular by cooking foods separately or reducing the times.

6.7 ACTIONS FOR THE TOURIST INDUSTRY

Tourism and, in particular, food tourism, can provide an opportunity for linking diet to the territory. This should be understood not simply in the sense of using the products of the territory, but also in terms of developing a fertile relationship between that which the territory produces in itself and the set of external elements that shall be managed with great skill. A tourist brings with him/her a different culture and the desire to discover new cultural items and elements. The creation of especially designed pathways and itineraries geared to conserve and promote these elements is an essential point for promoting the Mediterranean Diet also in the face of approaches and cultures that are very different from those of the Mediterranean.

The Mediterranean Diet as well as food and wine tourism are two sectors on which Italy shall focus on in order to promote and rediscover a heritage rich in traditions, habits and customs, which have influenced and contaminated the cultures of other peoples since ancient times. Indeed, the roots of the strong connection that ties our country to agrofood production are firmly planted in history. Italy is associated with a tasty, pleasant diet, but one that is above all healthy and essentially based on products that grow on our land. The uniqueness of the products shall therefore become a strength in which tourism companies, closely linked to their territory, shall invest.

The generous nature of the Mediterranean and the warm climate, the sea full of fish, hillsides and green plains, the plants and various environmental elements are all marks of the Mediterranean countryside and become distinctive signs of the uniqueness of its food productions. Through the layers of history and in the evolution of the tangible culture of our land, they have become the typical dishes and practices of Southern Italy regions. This land has always been a meeting place for different cultures, but in relation to other Italian areas which have the same layers of history, they are certainly more homogeneous and indeed, all the inhabitants of the various towns, both in the

most inland areas and also along the coast, have mainly been nourished by the same foods that they have grown and harvested in their vegetable gardens.

In this sense, the Mediterranean Diet becomes the intangible glue that binds together a single touristic product. One that is complex and structured in local areas, constituting a resource to be promoted with adequate actions and targeted policies.

When assessing the activity of promoting the Mediterranean Diet, the tourism and agritourism operators who perform the following actions may state their actions are congruent with the objective of promoting the Mediterranean model:

- a) making the most of the naturalistic-environmental and landscape-cultural resources and integrating the various forgotten production systems and goods to create historical, cultural and environmental value;
- b) proposing tourist packages capable of creating “pathways of flavours and scents” that link food and wine to the tradition and culture of the local area, including both the historical culture and the more recent kind (immigrants etc.), characterized by typical products favouring a cultural, thematic and sustainable type of tourism, by launching activities designed to promote the territory in parallel with an outlook that is constantly open to one’s fellow man;
- c) favouring an integrated type of tourism based on the promotion of the local excellences, characteristic products, culture and craftsmanship;
- d) offering initiatives of tourism, not only linked to the seasons (for example, summer period) centred around cultural events, based on rituals and occasions, intrinsic to the Mediterranean lifestyle;
- e) proposing stays in collaboration with agritourism facilities or farms to encourage the tourist to participate in the production processes of the typical or traditional Mediterranean product;
- f) proposing new forms of hospitality, such as, for example, the “diffused” hotel, to favour tourism in Mediterranean locations that are not as well-known or visited;
- g) increasing the sensitivity of the local populations and pastoral communities to the themes of the value of the local characteristic products, the promotion of a close link between food and territory to develop a range of tourist experiences that enables the visitor to come into direct contact with the local food culture.

ANNEX A - FRAMEWORK FOR THE MEDITERRANEAN DIET PROMOTION

FRAMEWORK FOR THE PROMOTION OF THE MEDITERRANEAN DIET			
VALUE	SUBJECT	ACTION	OBJECTIVE
Identitarian cultures	Ministry of Education, Universities and Research (Research Department) Universities Public and private research organizations Schools Cultural associations Museums	<ul style="list-style-type: none"> - Launch of partnerships with public and/or private, national and international bodies and/or organizations, to study and disseminate the culture of the Mediterranean Diet worldwide - Organization of Events, Exhibitions, websites, Cultural Meetings, International exchanges 	<ul style="list-style-type: none"> - Reinforcement of exchanges and integrations of experiences and knowledge connected to the food expressed in different ways, specific to each country but with common values and dimensions - Production of rules and regulatory documents that ensure partnerships are launched with public or private, national and international bodies and/or organizations for studying and disseminating the culture of the Mediterranean Diet in the world
Environment, territory and landscape	Ministry of the Environment Regions Provinces Municipalities Mountain municipality associations Parks Bodies accountable for promotion and control Schools Local authorities	<ul style="list-style-type: none"> - Dissemination of Knowledge and skills linked to tradition - Use of practices with a lower environmental impact Promotion of the landscape through the following actions: <ul style="list-style-type: none"> - Proposing tourist packages capable of creating “pathways of flavours and scents” that link food and wine to the tradition and culture of the local area, characterized by typical products favouring a cultural, thematic and sustainable type of tourism, by launching activities designed to promote the territory - Favour an integrated type of tourism based on the promotion of the local excellences, characteristic products, 	Protection of the practices of cultivation, harvesting, conservation, processing, preparation and consumption of food, characterized by a model which has remained constant over time and space

FRAMEWORK FOR THE PROMOTION OF THE MEDITERRANEAN DIET			
VALUE	SUBJECT	ACTION	OBJECTIVE
		<p>culture and craftsmanship</p> <ul style="list-style-type: none"> - Offer initiatives of tourism, not only linked to the seasons (for example, summer period) centred around cultural events, based on rituals and occasions, intrinsic to the Mediterranean lifestyle - Propose stays in collaboration with agritourism facilities or farms to encourage the tourist to participate in the production processes of the typical or traditional Mediterranean product - Propose new forms of hospitality, such as, for example, the "diffused" hotel, to favour tourism in Mediterranean locations that are not as well-known or visited 	
Biodiversity and sustainability	<p>Local authorities Parks Primary producers Local Action Groups Mountain municipality associations</p>	<p>Implement/establish Agreements/Protocols for:</p> <ul style="list-style-type: none"> - Initiatives that drive the link between agrofood products and the territory - Respect the seasonal nature of production, the rotation of crops and allowing land to lie fallow - Protection of the many local crops - Use of packaging based on the reuse and full biodegradability of the materials 	<p>Increase of the richness of the rural world and of a type of tourism that is increasingly sustainable, with the effects this has on the wellness and on the dissemination of a greater awareness about the importance of the delicate equilibrium of the ecosystems</p>

FRAMEWORK FOR THE PROMOTION OF THE MEDITERRANEAN DIET			
VALUE	SUBJECT	ACTION	OBJECTIVE
		<ul style="list-style-type: none"> - Introduction of farming practices for the recovery of native species to maintain the biodiversity of the productions - Adopt and publicize quality standards of their productions, favouring the distribution of the same on local markets and direct sale - Favouring the direct retail sale and the placement of the productions on the local markets (in particular the multi-functional companies) 	
Food quality	Parliament Government DGs of the Ministries and other Central Government Bodies DGs of the Regions Professional agricultural organizations and other organizations with roles in the processes of legislation, regulating the issues of nutrition, food security and safety, education about sport, protection of agricultural productions, etc.	<ul style="list-style-type: none"> - Adopting cultivars with a strong territorial vocation - Food trackability and traceability - Definition of eco-sustainable activities 	<ul style="list-style-type: none"> - Increase in the global quality in all the phases from production to processing - Reduction of the environmental impact, for example, carbon, water and ecological footprint
Food safety	Ministry of Health Production companies Processing companies Public catering outlets	<ul style="list-style-type: none"> - Production of regulations and regulatory acts that ensure compliance with the dietary principles of the Mediterranean Diet (and prevention of the chronic-degenerative illnesses and their main risk factors) in the dining halls of public and private organizations 	<ul style="list-style-type: none"> - Raise the consumer awareness by promoting a new approach to food - Reduction of cases of food poisoning

FRAMEWORK FOR THE PROMOTION OF THE MEDITERRANEAN DIET			
VALUE	SUBJECT	ACTION	OBJECTIVE
	School cafeterias	<ul style="list-style-type: none"> with a particular focus on catering for children; - Organization of courses on how to handle the foods of the Mediterranean Diet; - Implementation of Guidelines - Training of employees in the catering industry to ensure an optimum use of the products from the Mediterranean area 	
Health protection	Ministry of Education, Universities and Research (Department of Education and its local units) Schools Universities Health Authorities Workers in the restaurant industry Food companies Medical and health care staff Nutritionists Sport organizations and clubs	<ul style="list-style-type: none"> - Launch educational programs geared to foster the acquisition of notions and guidelines for disseminating the Mediterranean Diet, encouraging a transversal Dietary Education in terms of the scientific, historical, geographic, cultural, anthropological, ecologic, social and psychological features linked to the relationship of individuals and groups of people with food - Initiate sufficient training programs for teaching staff regarding the themes of the Mediterranean Diet, in particular in crèches, kindergartens, elementary schools, junior and senior high schools - Favour the organization and performance of sporting activities, also in the open air - Favour, organize and perform training, informative and promotional activities regarding the benefits of sport and a correct diet, with the support of coaches and trainers - Promote the relationship between food and health with specific educational courses - Offer, in the range of university courses, lectures dedicated to the correct use of the Mediterranean Diet; 	<ul style="list-style-type: none"> - Reduction of illnesses related to the diet - Reduction in obesity - Reduction of the expenses sustained by the national health service - Encourage the implementation of healthy lifestyles - Raise the awareness of the new generations regarding correct and healthy lifestyles

FRAMEWORK FOR THE PROMOTION OF THE MEDITERRANEAN DIET			
VALUE	SUBJECT	ACTION	OBJECTIVE
		<ul style="list-style-type: none"> - Promote the theme of nutrition and its connections with the health of the individual especially on the part of the Italian scientific institutes who work in this field - Identify and develop specific programs, structured in lessons and practical sessions, in the various Faculties in relation to the multidimensional nature of the Mediterranean Diet - Foster an increasingly detailed knowledge of the interactions between food and the human being, in particular in the age of development - Encourage the production of studies and research, also in the form of degree dissertations post graduate theses on themes regarding the Mediterranean Diet - Promotion of cultural exchange programs to also disseminate knowledge about the Mediterranean Diet abroad 	
Social and economic features	Regions Provinces Chambers of Commerce Municipalities Local authorities Public businesses	<ul style="list-style-type: none"> - Promote through policies which aim to modernize and develop the agrofood system - Propose tourist packages capable of creating "pathways of flavours and scents" that link food and wine to the tradition and culture of the local area, characterized by typical products favouring a cultural, thematic and sustainable type of tourism, by launching activities designed to promote the territory - Favour an integrated type of tourism based on the promotion of the local excellences, characteristic products, culture and craftsmanship - Offer initiatives of tourism, not only linked to 	<ul style="list-style-type: none"> - Increase the economic value (for example through tourism), thanks to the promotion of knowledge associated with the production of food and in particular that which comes from the Mediterranean crops in the respective territories, so helping to improve the local economy, use the soils in a sustainable way to reduce the environmental costs, and modernize the agrofood sector - Coherence with the indicators envisaged by the ESW

FRAMEWORK FOR THE PROMOTION OF THE MEDITERRANEAN DIET			
VALUE	SUBJECT	ACTION	OBJECTIVE
		<p>the seasons (for example, summer period) centred around cultural events, based on rituals and occasions, intrinsic to the Mediterranean lifestyle</p> <ul style="list-style-type: none"> - Propose stays in collaboration with agritourism facilities or farms to encourage the tourist to participate in the production processes of the typical or traditional Mediterranean product - Propose new forms of hospitality, such as, for example, the "diffused" hotel, to favour tourism in Mediterranean locations that are not as well-known or visited - Promote "sagras", fairs, events focusing on food and wine 	

ANNEX B - PRODUCT SHEETS

PRODUCT SHEET - PASTA	
Characteristics	<p>The name pasta of wholewheat durum wheat semolina is given to the product obtained by extruding, laminating and subsequently drying a mixture prepared only using wholewheat durum wheat semolina and water, which shall present the following characteristics:</p> <ul style="list-style-type: none"> - maximum humidity: 12.50% - ash content on dry substance: minimum 0.70%, maximum 0.85% - cellulose on dry substance: minimum 0.20%, maximum 0.45% - nitrogenous substances: minimum 10.50% - maximum acidity: 4 degrees on 100 parts of dry substance. <p>Pasta to be marketed is produced only in the types and with the characteristics envisaged by Italian Presidential Decree 187/2001, article 6.</p> <p>Good quality dry pasta shall be of an amber yellow colour, break with a dry sound, displaying a section that is not floury. When observed against the light it shall present an even colour (absence of black spots, white spots, air bubbles, cracks). Pasta shall have a pleasant odour and flavour, and not smell or taste unusual; it shall remain firm to the bite with a good consistency and flexibility (if the gluten is good quality it forms a net around the starch which would otherwise come out of the pasta, leaving it sticky); it shall absorb water, become up to two or three times heavier and not leak into the cooking water.</p> <p>During the production process, the best results are achieved by carefully blending different varieties of durum wheat, to obtain the most suitable semolina for each type of shape. The same production process shall be adapted depending on the characteristics of the shape in order to achieve the maximum result in terms of quality.</p> <p>The Italian pasta industry has always been particularly careful to ensure the quality and safety of its production system and of the finished product.</p>
Production process	<p>Pasta is produced by performing several technical specific technical operations; these are: the mixing and processing of the ingredients (creating the dough), breaking down and moulding the dough, (to define the shape of the pasta), drying if necessary (to reduce the humidity of the product as much as possible).</p> <p>In particular, the drying phase varies depending on the type of pasta to be processed. The important thing is that the final product shall not exceed 12.5% humidity, starting from a dough with 35% total water. The drying process tends to be performed using warm or cold air, since at higher temperatures the dough would dry out on the surface too quickly, not leaving the water enough time to migrate from the heart of the pasta to the outside of the food. The dry, extruded pasta shall be cooled, while the product can be packaged differently depending on the shape and the type of pasta used: bags, boxes etc.</p>

PRODUCT SHEET - PASTA	
Health facts	<p>A portion of wholewheat pasta covers approximately 20% of man's daily fibre requirement, essential for ensuring the natural balance of your organism, and provides the right amount of calories.</p> <p>Authentic and, in any case, tasty, wholewheat pasta comes from the whole grain of the wheat, which is still pure, that is, not stripped of the bran and the germ. This endows wholewheat pasta with decidedly nourishing properties. Indeed, the wheat germ is full of essential and antioxidant fatty acids, while the bran offers many mineral salts. These characteristics have a very positive effect on our intestine and are extremely useful for preventing cardiovascular illnesses.</p> <p>This product is particularly beneficial thanks to the large quantity of fibre it contains and its low glycemic percentage. Wholewheat pasta also prevents: high cholesterol, constipation, fat and comfort eating.</p> <p>To keep the pasta dish light, rather than dressing it with ready sauces, pestos full of cheese containing saturated fats, meat and similar elements, eat it with raw vegetables and raw oil, pan-sautéed vegetables and dressed when raw. Simple tomato sauce, legumes, i.e. a complete meal from the nutritional and dietetic point of view.</p>

PRODUCT SHEET - BREAD

Characteristics

Bread is one of the fundamental components of the Mediterranean Diet.

Over the last 40 years, the consumption of bread in our Country has almost halved, while, due to extreme changes in both the quality of life and lifestyle, and in our food habits, industrial products such as crackers, bread sticks and melba toast have become increasingly popular.

The baking processes of bread, in addition to facilitating the hydrolysis of the starch by the amylases, also appears to improve the digestion of the proteins thanks to an improved action of the proteolytic enzymes on the denatured proteins. Nutritionally speaking, starch is defined as a “slow” carbohydrate (sugar), that is, one that is capable of slowly raising the glycemic index of the blood.

The crust, the area of the food in which the humidity level is very much lower, presents significant losses of lysine (up to 40% compared to the raw material), an amino acid found in wheat that is already limiting and therefore reduces the nutritional quality of the food. The phenomenon responsible for these changes is the Maillard reaction which, following heat treatments, takes place between reducing sugars (for example, glucose, fructose, maltose) and free amino groups. There are many end products of this reaction and some of these are responsible for the particular, characteristic aromatic nature of bakery products.

PRODUCT SHEET - BREAD	
Composition	<p>Bread is a source of fibre: fibres (the brand of grain being the most famous) are lacking in the modern diet. The progressive industrialization of the food sector has helped to significantly reduce the fibre content of our diet.</p> <p>However, white bread contains little fibre (on average 2 grams, of which 0.3 is cellulose per 100 grams), but wholewheat bread, which preserves the integrity of the grain of wheat, has no less than 5 times more (on average between 7 and 8 grams, of which 1.5 grams is pure cellulose).</p> <p>Bread is a source of minerals: our diet is lacking in minerals, as well as fibre, to such a degree that a recent study showed, for example, that some of the population suffers from a magnesium deficiency. Minerals are molecules of non-organic origin which our organism is not capable of making, but which are essential for making it function: for example, iron is needed to transport oxygen in the blood, calcium is required for the bone structure... White bread does not contain many minerals; indeed a much larger quantity is found in wholewheat bread.</p> <p>The main minerals found in bread are sodium (Na) and chlorine (Cl), because bread is also made with salt, which is indeed sodium chloride (NaCl), sulphur (S), phosphorus (P), calcium (Ca), magnesium (Mg), potassium (K) and iron (Fe). Wholewheat bread can provide almost all of the recommended daily intake of magnesium, similarly to the calcium provided by dairy products.</p> <p>Bread, especially wholewheat bread, is a source of vitamins: the vitamins found in the largest quantities in bread are B1, B2, Pp and E but in white bread these are found in quantities that are from 3 to 6 times lower than in wholewheat bread.</p> <p>Wholewheat bread is better than white bread from a nutritional point of view because it provides a higher quantity of fibre, minerals and vitamins than white bread.</p>

PRODUCT SHEET - BREAD	
Health facts	<p>Bread is one of the main sources of vitamin B1, a substance that can be found, above all, in wholewheat bread and rye bread, together with proteins and vitamin E. It is important to emphasize that the vitamin content of bread depends strongly, on one hand, on the rate at which the flour is extracted (refining can lead to losses estimated at between 40% and 80%), and on the other hand by the technological operations of kneading and, above all, of baking, which practically lead to these compounds disappearing. Concerning the so-called lesser components, the mineral constituents present in bread exactly reflect those of the ingredients from which they are made, with the losses of these compounds increasing as the rate of extraction decreases.</p> <p>The quantities of lipids (fats) found intrinsically in the cereals from which bread is made are negligible and therefore are of no nutritional interest, even if there is evidence of their playing a positive role in the bread-making process. Bread therefore contains starch.</p> <p>The presence in all bakery products of starch which is no longer in its original state but has been gelatinized following baking, makes this molecule easy for the amylases to digest, starting with those contained in the saliva. However, recent studies have shown that many products contain polysaccharides of a fraction of starch which cannot be digested by enzymatic systems and is therefore known as "starch-resistant". On a nutritional level, this fraction behaves like dietetic fibre and would appear to be mainly composed of retrograded starch. It therefore follows that the staler the bread and the more retrograded the starch, the more important the phenomenon will be.</p>

PRODUCT SHEET - CEREALS	
Characteristics	<p>The guidelines for a healthy diet (issued by the Italian MIPAAF-INRAN) stress the importance of cereals as essential components of a healthy diet. In particular, foods made with cereals are important because they provide complex carbohydrates (especially starch and fibre), but also vitamins, minerals and other substances that are extremely interesting for ensuring good health, and above all, they contain few fats and sodium. Additionally, cereals are also a good source of proteins with a good biological value. Many studies have shown that a diet rich in cereals, together with legumes, fruit and vegetables, protects the body from many illnesses that are very common in the developed countries, especially various forms of tumours and cardiovascular illnesses, diseases of the digestive system etc. The cereals and their derivatives, as well as fruit and vegetables, also contain notable quantities of dietary fibre, which is important because although it has no nutritional or energy-providing value, it regulates various physiological functions in the organism. The recommended fibre intake is about 30 grams per day, a higher quantity than that currently consumed in Italy. Cereals can also be consumed by diabetics and by those who suffer from gluten allergies: indeed, there are several gluten-free varieties, such as amaranto, buckwheat, quinoa, wholewheat rice and millet.</p>
Composition	<p>Cereals belonging to the family of grasses include species such as oats, wheat, rye, spelt, triticale, corn, barley and rice. The food derived from these have always been the main dietary source of carbohydrates, and therefore of energy, in nutrition all around the world. In a balanced diet, approximately 60% of the calories of each meal should come from carbohydrates (simple and complex), the consumption of which ensures the organism is constantly refuelled with energy over time, preventing sudden variations in the level of glucose in the blood (glycemic level). Carbohydrates (sugars, starches and fibre) therefore constitute the most important source of energy (in terms of quantity) for the organism and provide all the tissues of the human body with energy, especially the brain and the red blood cells, which only use glucose as a source of energy for the activities of the cells.</p>
Health facts	<p>WHO recommends that we increase the consumption of wholewheat cereals to counteract obesity, the cardiovascular illnesses and diabetes. In Italy, LARN and the INRAN Guidelines make this same suggestion, given the rich fibre content of these foods. The consumption of wholewheat cereals in general has been associated with a lower risk of developing chronic degenerative diseases, thanks to the presence of bio-active compounds such as fibres and phytochemicals if these foods are eaten on a regular basis. These compounds are potentially available in the intestine, but the way in which they can induce physiological effects depends on the speed at which they are absorbed and on how they are distributed in the tissues. Up until a few years ago, most studies were mainly conducted</p>

PRODUCT SHEET - CEREALS

on wheat, given the many economic interests that revolve around the cultivation of this cereal. Fortunately, today there are many projects designed to promote the productions of lesser-known cereals, for a series of reasons, such as the diversification of the agriculture, the recovery of marginal areas, the selection of new improved genotypes with higher levels of productivity, and which can be more easily adapted for the production of pasta and bread. Of equal importance is the factor linked to the creation of foods which, in addition to their basic nutritional function, show that they have physiological benefits on the organism

The lesser-known cereals are a true cure for the heart, and some components of the wholewheat cereals (soluble fibre, beta-glucan, alpha-tocotrienol, arginine lysine ratio) play a part in lowering the level of cholesterol in the blood, while other bio-active components promote vascular reactivity, facilitate coagulation and increase the organism's sensitivity to insulin. Some studies associate the lesser-known cereals with a lower risk of developing the various forms of cancer of the gastrointestinal tract. Indeed, a high consumption of these is linked to a reduction in the risk of developing these tumours of between 21 and 43% compared to the risk present when they are consumed in smaller quantities. There can be various explanations for this: the fibres and some of the starch contained in wholewheat cereals ferment in the colon, reduce the time needed for food to transit and keep the gastrointestinal tract healthy. The same antioxidants limit the oxidative damage which could be responsible for developing neoplasias. Finally, several positive effects are linked to the mechanisms induced by the consumption of those products, such as the loss of weight and the alteration of the blood glucose levels, while other bio-active components of the wholewheat cereals could influence the hormonal levels, so reducing the risk of hormone dependent tumours, even if in this field there is a need to perform more in-depth studies.

Epidemiology studies also relate an increased consumption of fibre or wholewheat cereals with a reduction of up to even 20 to 30% in the risk of developing type 2 diabetes. Indeed, clinical tests have shown the ability of these products to improve the control over the blood sugar of those who suffer from this illness, and how it can reduce the fasting plasma insulin and resistance to insulin in non-diabetics. These virtues are connected with various components of the wholewheat cereals (magnesium, fibre, vitamin E, phytic acids, lecithin and phenolic compounds), which lower the levels of glucose and insulin in the blood, so keeping this illness at bay.

PRODUCT SHEET - EXTRA VIRGIN OLIVE OIL

Characteristics

Extra virgin olive oil is a fat that is liquid at room temperature, with a density of approximately 916 grams/litre. Almost 98% of it is composed of a blend of triglycerides that constitute the saponifiable fraction and the remaining 2% is defined as the unsaponifiable fraction, that is the part of the substances that are not altered if treated with concentrated alkalis.

The chemical composition of the oil is affected by numerous factors:

1. the variety of the olives;
2. the conditions of the environment and the climate;
3. the techniques used to grow the plant;
4. the techniques used to harvest the olives and the degree of ripening;
5. the storage phase of the product and the processing of the fruit (processing technology).

The fatty acids of the olive oil are esterified with glycerin, forming the so-called triglycerides. Each molecule of glycerin is combined with three molecules of fatty acids. The largest group of triglycerides are those which contain three molecules of oleic acid (40-60) %, two molecules of oleic acid and one of palmitic (12-20) %, linoleic (12.5-12.0) % or, of stearic (3-7)% and finally, the triglyceride formed by a molecule of palmitic, one of oleic and one of linoleic (5.5-7.0)%. In general, oleic and linoleic unsaturated fatty acids occupy position 2.

The fatty fraction is therefore composed of a series of fatty acids that combine with the glycerol, an alcohol with three atoms of carbon C-C-C. If three fatty acids combine with the "three Cs" of the glycerol of glycerin, the so-called triglycerides are formed, otherwise bi or monoglycerides may form.

Instead, a small fraction of fatty acids fails to unite with the glycerol and constitutes the fraction of free acids. The individual fatty acids are composed of a long chain of carbon atoms attached to one another by way of a simple C-C link and in this case they are known as saturated, or, once or twice, the simple link can be replaced by a double C-C link and in this case the acids are known as unsaturated.

These two essential acids are found in olive oil in a very balanced ration, whereas this fails to occur in the other vegetable oils.

Olive oil has been the star of the Mediterranean table for thousands of years. Extra virgin olive oil, sourced only from the mechanical pressing of the olives, is not only a delight for the palate or a simple dressing, but a real food.

The substances present in the non-glyceride fraction of the oil, which accounts for 1% to 2% of the total, are responsible for important properties; the organoleptic properties such as the scents (fruity), odors (apple, artichoke, almond, pine, grass, leaves), the characteristic tastes (bitter, spicy, sweet...), the biological properties such as the healthy, preserving antioxidant abilities; they are also markers which identify the presence of fraud.

These include alcohols, sterols, polyphenols, tocopherols, hydrocarbons, liposoluble vitamins and pigments.

PRODUCT SHEET - EXTRA VIRGIN OLIVE OIL	
Quality	<p>The evaluation of the quality of olive oils is based on the determination of several chemical parameters (acidity, number of peroxides, absorption of UV light) which are insufficient for formulating a judgment on the quality level of the product.</p> <p>Therefore the organoleptic characteristics shall also be taken into consideration.</p> <p>To make the evaluation of the organoleptic characteristics of extra virgin olive oil as objective as possible, after years of tests, a sensorial evaluation method was defined, based on the “panel Test” technique, where tasters trained to appreciate the olfactory and taste characteristics of extra virgin olive oils fill in a form, separately and autonomously, and verify the presence and intensity of the basic sensations (advantages and faults). The average score calculate from the forms identifies, in scale, the quality level of the oil and therefore the category to which it belongs.</p>
Health facts	<p>Olive oil has been the star of the Mediterranean table for thousands of years. Extra virgin olive oil, sourced only from the mechanical pressing of the olives, is not only a delight for the palate or a simple dressing, but a real food.</p> <p>Olive oil is the vegetable oil most easily digested by the human body. It contains triglycerides and polyunsaturated fats, as well as antioxidant substances such as vitamin E, Polyphenols, Phytosterols, Chlorophylls and carotenoids, which exert a protective action on our organism. Thanks to these elements, extra virgin olive oil can help to block the activity of the free radicals, that is, the chemical compounds responsible for cellular aging.</p> <p>Olive oil also provides an excellent source of pre-cursors to Vitamin A, and thanks to this, extra virgin olive oil prevents the mucous membranes from drying out and slows skin aging process. The presence of significant levels of vitamin D ensures that the olive oil enables a good absorption of the calcium in the intestine and as a result, protects the bones of the elderly from decalcification. The fact that it is easily digested enables it to be considered an excellent carrier for the antioxidant and vitaminic substances present in other foods which are difficult to assimilate in its absence.</p> <p>The balanced presence of Linoleic acid and the right relationship with its derivatives Linolenic acid and Arachidonic acid favours the elimination of cholesterol through the intestine, reducing the risk of coronary diseases, gallstones and blood clots. Also, it is well-known that consuming it regularly can help to prevent tumours of the colon and breast, but also the cardiovascular illnesses, because thanks to the presence of oleic acid, it makes the lipoproteins more soluble and increases their ability to remove the cholesterol.</p> <p>A diet rich in animal fats increases the quantity of cholesterol in the blood and this is one of the main risk factors in the cardiovascular</p>

PRODUCT SHEET - EXTRA VIRGIN OLIVE OIL	
	<p>illnesses. Instead, vegetable oils perform a protective action.</p> <p>It can fairly be said that extra virgin olive oil in particular has greater beneficial effects than those produced by other vegetable oils. Not only due to its unique qualities but also because extra virgin olive oil is the only oil produced by simply applying pressure to and squashing the fruit, without any further chemical or physical treatments. Instead, seed oil is produced using special equipment and chemical substances such as butane, propane and hexane.</p> <p>Extra virgin olive oil, both crude or when warmed, is the most suitable fat for diet, not only due to its aroma and taste, but also for its range of properties, including in particular its acidic composition with a prevalence of mono-unsaturated fatty acids and a perfect equilibrium of polyunsaturates, its content of vitamin E, provitamin A and antioxidants, with a protective action for health.</p>

PRODUCT SHEET - WINE	
Characteristics	<p>Wine is an integral part of the Mediterranean Diet, if consumed in moderate quantities, preferably with meals.</p> <p>The sense of conviviality, one of the pillars on which the Mediterranean Diet is built as the most publicized lifestyle in the world, is also fruit of wine which, when drunk in small quantities, makes socializing easier and helps people to express good sentiments.</p> <p>However, it is important not to exceed a moderate consumption. When drunk in the quantity of one glass per meal, and only during meals, it becomes a food worthy of the Mediterranean Diet: tasty and healthy.</p> <p>Indeed, this has a positive action in the metabolism of the fats, counteracting the formation of triglycerides and cholesterol: it is an excellent vasodilator and therefore inhibits coronary obstructions, a powerful anti-blood clot agent and finally, it uses its antioxidant properties to neutralize free radicals.</p> <p>According to the EC regulations, wine is defined as “[...]the product obtained only by fully or partially fermenting the sugars contained in fresh crushed grape must, which transform into alcohol by way of the so-called alcoholic fermentation process...”.</p>
Composition	<p>Wine contains hundreds of different compounds (currently we know of no less than 600 substances) and it is interesting to note that the organoleptic properties are not only influenced by its main components, that is water and alcohol, but also by its minor components and even by those present in the form of traces and ultra-traces.</p> <p>After carbohydrates and acids, polyphenols or phenolic compounds are the large group of the chemical constituents of grapes. In wine these play a key role: first of all they are responsible for the differences between white and red wines, especially in terms of colour and aroma, contributing specifically to the bitter taste and astringency of the wine; secondly they have antioxidant and bactericidal properties, particularly favourable for ensuring good health; finally they play a prime role in the conservation and aging of wine.</p> <p>On a macroscopic level, the polyphenols account for the coloured and colouring part of the wine. They are compounds contained in the skin of the grape and their presence depends on the wine-making process. Based on the content of polyphenol, wines can be classified as white, rosé, red, deep red and press wine. In general, white wines have a lower polyphenol content than red ones.</p> <p>The scent coming from the grapes is defined as its aroma and can vary from vine to vine. Instead the scent produced after the wine-making process, which depends on the conditions of fermentation, the various wine cellar and aging processes, is defined as the bouquet. The bouquet changes gradually and constantly as a young wine ages (unlike the aroma).</p> <p>The volatile compounds present in wine are responsible for its scent. They have a tendency to evaporate and chemically they belong, among others, to the families of the terpenes, alcohols, aldehydes,</p>

PRODUCT SHEET - WINE	
	<p>ketones, acids and esters. To date we know of approximately 500 different compounds that influence the scent of wine; only about one hundred of these have been quantified.</p> <p>The volatile substances therefore enable both the traceability and the trackability of the product to be followed, as they describe it throughout its journey along the production chain, from the harvest to the point of sale. Many compounds are not active in an olfactory sense, whereas others, even when present in traces, can make a significant contribution to the aroma of the agrofood product.</p> <p>The compounds that contribute to the flavour are organic acids, tannins, terpenoids (monoterpenoids, sesquiterpenoids and norisoprenoids) and various precursors of aldehydes esters and thiols. Although some aromatic volatile compounds belong to the class of terpenoids can already be present in grapes as volatile compounds, most of those that characterize the wine are present in the fruit, in the vacuoles of the cells in the skin, in a non-volatile form and precisely as hydrosoluble, glycosidic derivatives. Thanks to the action of the enzymes intrinsic to the grapes and those of the yeast, these combined compounds will be separated in their volatile form so that they can be perceived by our sense of smell.</p> <p>The aromatic volatile compounds are a sort of identity card for the wines and in particular for the various varieties of grapes used for their production. Instead, the compound beta-damascenone is one of the compounds that belongs to the most important group of norisoprenoids in red wines and is responsible for producing fruity notes and aromas of honey at very low concentrations.</p>
Health facts	<p>Over the last few years, a series of studies has been published in international literature exploring the link between the consumption of moderate quantities of wine and the reduction of activity of the markers of evolution of degenerative illnesses.</p> <p>The difference in the presence and concentration of polyphenolic constituents with a healthy impact in wines lies not only in the varietal and environmental characteristics but also, and perhaps more importantly, in the wine-making (type of yeast, fermentation temperature) and aging processes.</p> <p>Among the polyphenols, the flavonoids are responsible for the positive effects in the cardiovascular system, also inhibiting the activation of the platelets by exerting an antioxidant effect. Hydroxycinnamates are the phenolic components prevalent in white wines which account for 75% of the total polyphenols present. The rest is formed by the polyphenols also common to red wine, for example the flavonoids, represented by quercetin, ferulic acid and many others. The antioxidant properties of red wines are linked to the contents of flavan-3-ols, anthocyanins and acidic tannins, even if it is believed that the antioxidant properties of these wines are linked to the total concentration of the polyphenols, rather than the individual polyphenols. In the end, white wines are different from red wines above all from a quantitative point of view,</p>

PRODUCT SHEET - WINE	
	while from the qualitative point of view there are no significant differences.

PRODUCT SHEET - FRUIT AND VEGETABLES	
Characteristics	<p>Fruit and vegetables are extremely important elements for a healthy diet and, if consumed each day in sufficient quantities, they can help to prevent cardiovascular illnesses and certain types of tumours. The World Health Organization recommends that people consume at least 400 gr of fruit and vegetables per day to prevent chronic illnesses such as cancer, diabetes and obesity. To reach these quantities, the various colours of fruit and vegetables can be combined, so benefiting from all the advantages they offer.</p> <p>Modern research in the field of nutrition is increasingly focusing on the study of the natural components present in plants, fruit and vegetables, which are essential for maintaining that a harmonious biological harmony that can be identified with the condition of good health. The use of plant-based foods, rich in nutraceutical elements, offers the possibility of protecting the condition of health in a much cheaper, more natural way than that achieved when using synthetic products.</p>
Importance of phytochemicals	<p>Today, approximately 30,000 phyto-components of plant-based products have been identified. "Phyto" means plant and, as their name suggests, phytochemicals (sometimes called phyto-nutrients) are biologically active molecules present in plants which have a favourable action on the health and prevent certain illnesses.</p> <p>There are approximately 5,000 to 10,000 phytochemicals in the plant based products commonly consumed.</p> <p>When consuming 5 portions a day of fruit and vegetables, we are ensuring that we consume about 1.5gr/day of nutraceutical phyto-components.</p> <p>It would be appropriate to alternate the types of fruit and vegetable consumed, favouring those in season so as to replenish the organism with all the possible colours. Indeed, each colour corresponds to specific substances with a protective action, and only by varying these can all the organism's requirements be covered.</p>
Unique features	<p>Compounds responsible for the colour red. In the red group, we have fruit and vegetables with precious virtues because they are capable of reducing the risk of developing tumours and cardiovascular illnesses and of protecting the epithelial tissue. It is a colour with a strong antioxidant action due to two phytochemicals: lycopene and anthocyanins. Lycopene counteracts breast tumours and cancer of the ovaries in women and prostate cancer in men. Tomatoes and watermelon are full of it.</p> <p>Lycopene is a carotenoid with a highly antioxidant power, as it captures the free radicals, acting on the cell membranes and the lipoproteins. Lycopene reaches its highest level of concentration when fruits and vegetables are ripening.</p> <p>Compounds responsible for the colour yellowy-orange. Yellowy-orange foods have access to flavonoids, which act mainly in the</p>

PRODUCT SHEET - FRUIT AND VEGETABLES

gastrointestinal system, neutralizing the formation of free radicals or capturing these before they can damage other molecules. In the yellow--orange team, the pepper, the lemon and the orange are rich in vitamin C and, as well as having an antioxidant function. They also help produce collagen. The protective action of anthocyanins has also been scientifically proven. These are phytochemicals with anti-inflammatory, anti-tumour and anti-blood clotting properties present in large quantities in oranges.

Compounds responsible for the colour green. The properties of green in the consumption of green fruit and vegetables are associated with a lower associated risk of developing tumours and cardiovascular illnesses. Some substances are considered important for the transmission of the nervous impulse. The green colour is generated by the presence of chlorophyll which has a powerful antioxidant action for our organism. Carotenoid, another phytochemical found in the colour green, helps our organism to prevent many types of tumour and to protect it from the coronary illnesses. The carotenoids are responsible for our vision, the development of the epithelial cells and also help combat aging.

Green fruits and vegetables also contain magnesium, a mineral with important qualities for the metabolism of the important carbohydrates and the proteins, which regulates the pressure of the blood vessels and the transmission of the nervous impulse. Magnesium stimulates the absorption of calcium, phosphorous, sodium and potassium. Vegetables with green leaves are a rich source of folic acid and folates, which help to prevent atherosclerosis and the risk of incomplete closure of the vertebral channel in newborns during pregnancy.

Compounds responsible for the colour blue-purple. All the foods under the blue-purple group are characterized by a conspicuous fibre content; their consumption is associated with a lower risk of developing tumours and cardiovascular illnesses; they contain several substances that are important for the sight, the structure of the blood capillaries and the smooth functioning of the urinary system. The anthocyanins, phytochemicals with an antioxidant power, are very useful in treating illnesses of the blood circulation, and fragile capillaries. They also prevent atherosclerosis induced by high levels of cholesterol and are useful in preventing the platelets from aggregating and in improving the sight. Among the products in the blue-purple group, the blackcurrant and the radicchio are excellent antioxidants: the radicchio is rich in vitamin C, which helps to form carnitine and collagen. Instead, berries treat the fragility of the blood vessels and prevent urinary tract infections. In the blue to purple group there are foods rich in fibre and carotenoids, which prevent tumours, cardiovascular illnesses including strokes, cataracts, cellular aging, neurodegenerative diseases and skin aging.

Compounds responsible for the colour white. Fruit and vegetables of the white group reinforce the bone tissue and prevent tumours and

PRODUCT SHEET - FRUIT AND VEGETABLES	
	<p>cardiovascular illnesses. Quercetin is the phytochemical found in white foods, a typical antioxidant that is very useful in the prevention of various tumours. Fruits and vegetables in the white group offer a wealth of wellness due to their rich fibre and mineral content (especially potassium, which protects the bone tissue and prevents cardiovascular illnesses and high blood pressure) and their abundance of vitamins, in particular vitamin C. They also contain isothiocyanate, the phytochemicals that prevent cellular aging.</p>

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