



# CuteSolar

CULTIVATING THE TASTE OF EUROPE  
IN SOLAR GREENHOUSES

PRESS KIT





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# 1 CUTE SOLAR Programme: Cultivating the Taste of Europe in Solar Greenhouses

European producers grouped in the organizations APROA, Association of Fruit and Vegetable Producing Organizations of Andalusia, HORTIESPAÑA, Interprofessional Organization of Fruit and Vegetables and AREFLH, Assembly of European Fruit and Vegetable Regions, have launched the promotion program CuteSolar: Growing the taste of Europe in solar greenhouses.

The plan, which has more than one and a half million euros, is co-financed by the proposing organizations and the European Union, will last three years (2020-2022) and will be developed in Spain, Germany and Belgium.

The aim of the program is to inform European consumers of the specific characteristics of agricultural production methods in solar greenhouses, especially in key aspects such as sustainability and respect for the environment and the safety, quality and traceability of crops. Likewise, through this European plan we want to value the quality, variety and freshness of the fruits and vegetables grown under solar greenhouses, highlight the

sustainability of these production methods and increase the knowledge of the health benefits that the consumption of fruits and vegetables represents, being one of the fundamental pillars of the Mediterranean Diet.

The campaign, which is based on a content dissemination strategy, is complemented by a digital approach that includes the creation of a website, social media channels, digital advertising, informative events and videos, and a targeted public relations action plan to the media.

With these actions we want to make visible a vital sector for Spanish agribusiness and for European food sustenance, since it provides healthy food to 500 million inhabitants in periods when continental production is not viable, contributing to the food autonomy of the EU in a global context of demographic increase and scarcity of acreage. Its future sustainability depends on the European countries being able to eat healthily, at acceptable prices, without turning vegetables into luxury goods.

## 2 The solar greenhouse, present and future of sustainable agriculture

It is paradoxical that an environment in which 24% of the territory is arid (Almería has the most desert climate in Europe), has managed to build the largest orchard in Europe, becoming, in turn, a world reference in the production of crops.

This dry climate that at first might seem like a disadvantage, together with the fact that it is one of the areas with the most hours of sunshine a year and the existence of groundwater, gave way 60 years ago to the largest and most fruitful agricultural project in history: solar greenhouses.

The reality of the present today is very different from that of the past and has undergone a remarkable evolution thanks to constant innovation that has allowed increasing production, expanding marketing schedules, ensuring profitability of crops, obtaining high-quality products and building a sustainable model from an economic, social and environmental point of view. Not surprisingly, Almería is known as the Silicon Valley of sustainable agriculture.

All this has been possible thanks to solar greenhouses, the most advanced and pioneering system in the world whose only source of energy is the sun. This model differs significantly from production methods in other greenhouses, where fossil fuel heating systems are used, which entail significant energy consumption. However, the existing greenhouses in southeaster Spain are fed exclusively by sunlight, with the help of natural ventilation and the roof bleaching technique as climate control systems.

Natural ventilation allows controlling the values of temperature, humidity and CO<sub>2</sub> concentration inside the greenhouse, while the whitening of the roof supposes a reduction of the solar radiation that is transmitted inside it, which allows the crops to carry out their photosynthetic activity and, in addition, provides the energy that warms plants, soil and air. Furthermore, these white covers contribute to slowing down climate change thanks to the “albedo effect”. Their environmental contribution, together with the use of land and water, have made solar greenhouses in southern Spain the most efficient and innovative productive agricultural model in the world and a plausible alternative to feed a growing number of populations.





## Contribution of solar greenhouses to the environment

-600%



The water footprint (m<sup>3</sup> per capita) of horticultural products is 19 times lower than that of national agriculture as a whole.

Each hectare of greenhouse is capable of fixing between 8-10 tons per year of CO<sub>2</sub>, or what is the same, each hectare absorbs the daily CO<sub>2</sub> emission of 8 cars.



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96% of the energy consumed is of solar origin, its consumption being up to 30 times lower than that of other greenhouses that use fossil energy to heat and provide additional lighting for crops.

Greenhouse agriculture only generates 7% of plastic waste in Spain and contributes more than others to recycling, since it represents 9% of the total reused.



This area is a world leader in the use of biological control, which helps reduce the use of phytosanitary products.



The white covers of the greenhouses have a buffer effect against global warming thanks to the albedo effect (reflection of solar radiation) and have contributed to the cooling of the area by -0.3 °C per decade.



# 3 Territorial structuring and driving force for employment

The natural environment of Almería is characterized by aridity, strong insolation, lack of surface water and the interaction between mountain and coastline. As a whole, its orographic reliefs compartmentalize the space and accentuate the enclave and disconnection features of the area, which in the past led to a low population density, high emigration and a lack of public infrastructure.

This trend was reversed with the emergence and establishment of solar greenhouses, which meant “the conversion of a desert into an orchard” and a pole of attraction for the economy and for the increase in population. Today,

solar greenhouse agriculture, the handling and marketing of vegetables, and the auxiliary industry of agriculture, represent 40% of the GDP of Almería.

Thanks to the effort and sacrifice of this constantly innovating sector, today more than 14,000 families can live on it, 45,000 direct jobs are generated (60% immigrant workers of more than 140 nationalities) and more than 100,000 indirect.



# 4 Spanish greenhouses: Europe's pantry

Spain is the country in Europe with the highest number of solar greenhouses. They are located mainly in Almería, occupying an area of 30,000 ha by the sea, and on the coast of Granada. Together they produce 4.5 million tons of vegetables (mainly tomatoes, peppers, cucumbers, aubergines, zucchini, melons and watermelons) and supply more than 47% of the domestic market and 50% of European markets, reaching exceed 60% during the winter months, when continental production is not viable due to low temperatures.

The optimal weather conditions that occur in this area of Spain, together with a modern, sustainable and innovative production system, have made this sector one of the mainstays of world agriculture with a clear export capacity.

The figures corroborate the international vocation of this sector, 75% of the domestic production grown under solar greenhouses was destined for export, mostly to Germany (32%), France (16%), the United Kingdom (12%) and the Netherlands (11%), which places Spain as one of the main suppliers of fresh fruits and vegetables within the European Union.



# 5 Eating with a conscience

The metamorphosis experienced by the Almeria wasteland and the Granada coast, in southern Europe, during the last 30 years, as well as its rapid transformation, have led to erroneous beliefs about the most productive activity in Andalusia: solar greenhouses.

Precisely, this program aims to banish the false myths that circulate around these crops and inform the population of the innovative, respectful and sustainable production methods, as well as the economic and social contribution to an area traditionally marked by scarcity of resources.

In the last three decades, European solar greenhouse growers have made significant qualitative advances in production and marketing. All this has allowed these crops to enjoy the highest standards of quality, food safety and sustainability. Their production is guided under the strictest conditions of respect for people and the environment.







## Some of the main advances that have taken place in the sector in recent years are the following

- The high quality and safety standards demanded by European clients have motivated the vast majority of crop producers in solar greenhouses to comply with certification systems or standards of good agricultural practices in the field, which guarantees the traceability and quality of the food at all stages of production, sustainability of the activity and work throughout the value chain.
- Greenhouse crops are characterized by a sustainable use of water resources through precision agriculture thanks to sanding techniques, drip irrigation, fertigation or the collection of rainwater. This allows the use of water in agriculture to be half that of the Spanish average.
- Greenhouses in the southeast of Spain are leaders in the use of biological control techniques to fight pests, reducing the use of phytosanitary products and caring for the environment.
- The development of a multitude of new technologies in the areas of handling, packaging, quality control and traceability, logistics and distribution, allow to preserve the freshness and nutritional properties of the product, intact until the moment of consumption, and that these reach the customer with all the security guarantees.
- The value chain of the products of solar greenhouses, from when they are grown until they reach the supermarket shelves, has a significant social impact by providing employment to thousands of people earning similar or higher wages in this sector than in the rest of Europe.



# 6 Fruits and vegetables, source of health

According to the World Health Organization (WHO), fruits and vegetables are an important component of a healthy diet. So much so that a low intake of fruits and vegetables is associated with poor health and an increased risk of contracting non-communicable diseases. It is estimated that in 2017 some 3.9 million deaths in the world were due to inadequate consumption of fruits and vegetables, according to WHO data.

There are numerous scientific studies that link the intake of vegetables with the prevention of certain chronic diseases, due to the presence of compounds capable of behaving as prevention factors. In addition, it has also been proven that diet has a determining impact in psychiatry, since there is growing evidence of the relationship between the quality of the diet (and its possible nutritional deficiencies) and mental health. Incorporating fruits and vegetables into your daily diet can reduce the risk of some noncommunicable diseases, such as heart disease and certain types of cancer. There is also some evidence that when consumed as part of a healthy diet low in fat, sugar and salt (or sodium), fruits and vegetables can also help prevent weight gain and reduce the risk of obesity, a factor independent risk of noncommunicable diseases.

Although they are very varied, fruits and vegetables share very similar nutritional benefits: they are foods with a low-fat content, with a low amount of carbohydrates, high water content, they have dietary fibre and are an important source in the supply of minerals and vitamins.



# 7 Vegetables, a classic in world gastronomy

Whichever way you look at it, fruit and vegetables have been linked to man since the beginning of time and their presence has been part of the existence and development of all peoples. Baked, fried, cooked, raw, in creams, in juices or in smoothies, in desserts, as a first course or as an accompaniment, stuffed or battered... Vegetables have thousands of culinary applications and provide not only flavour and colour, but also health.

There are many different types of food in the world. Every country, every region and every area have its own typical dishes, but vegetables are part of the common denominator of many recipes, either as a main food or as a basis in their preparation. The famous Japanese vegetable tempura, the legendary Greek aubergine musaka, the traditional Andalusian gazpacho, the Hawaiian poké... All these recipes

have gone beyond the geographical limits of each country and are now part of the collective imagination of gastronomy.

Nevertheless, the population is far from meeting the consumption target set by the World Health Organisation of a minimum of 450 grams a day (the equivalent of five portions), making this insufficient intake one of the top 10 risk factors for mortality on a global scale, according to the WHO.



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