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The need to reduce food loss and waste

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La necesidad de reducir las pérdidas y el desperdicio de alimentos

A necessidade de reduzir as perdas e o desperdício de alimentos

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In 2019, the 74th United Nations General Assembly designated 29 September as the International Day of Awareness of Food Loss and Waste, recognizing the fundamental role that sustainable food production plays in promoting food security and nutrition.

Agrocienca Uruguay joins the awareness campaign with the following editorial.

According to the Food and Agriculture Organization (FAO), the world population in 2050 will be between 9 and 10 billion inhabitants, determining an increase in the demand for food. This cannot be achieved by increasing production, since there is less and less land suitable for agriculture and to generate it it would be necessary to resort to deforestation and/or degradation of pastures, with the consequent negative impact on the environment and biodiversity. On the other hand, agricultural production has reached its highest levels in most production systems, and it is quite absurd to increase production when a third of the total food produced is lost⁽¹⁾.

In this scenario, the strongest strategy that must be developed is the reduction of food loss and/or waste. These concepts, although different, determine that food does not reach the purpose for which it was produced. Both food loss and waste refer to products that are intended for human consumption. Therefore, food for animal feed, seeds and those for energy production are excluded. The difference between the two concepts lies at the step of the chain in which they are produced. Losses occur in any part of the production chain (production, post-harvest, processing and storage), before the product reaches the commercialization phase; while waste refers to losses that occur in sales and consumption phases⁽²⁾.

Fruits and vegetables are the foods that are lost the most, reaching values greater than 50%. In the case of roots and tubers, losses can reach values between 40-50%, and values of up to 30% in cereals. Losses and waste imply not only the fact that the products will not be consumed, but also that all the resources that were destined for their production are lost, such as water, energy, agrochemicals, etc. In addition, food losses have an environmental impact linked to the generation of greenhouse gas emissions, responsible for climate change. The largest increases in greenhouse gas emissions are

associated principally with developing economies, specifically China and Latin America, and are mainly linked to growing losses in the fruit and vegetable chains, which would represent between 10-12% of the total emissions. Losses in Latin America and the Caribbean are estimated to reach 6%, and correspond to about 127 million tons of food suitable for human consumption per year.

Fruit and vegetables losses that occur in the production stage have different causes, among which appear: losses of quality and quantity mainly linked to the changing climatic conditions; losses due to changes in tastes and/or market demands that make many products not even harvested; losses linked to social changes in the productive sector, mainly due to the increasingly pronounced lack of labor; and finally, losses related to bad management practices, such as fertilization, irrigation, application of phytosanitary products at inappropriate times, doses and/or active ingredients, management associated with fruit and vegetable quality (planting density, thinning, etc.).

In the postharvest stage, losses are also of different origin and can be grouped, firstly, as physicals, which are those produced by mechanical agents that have a direct effect on the appearance of the products, but also constitute an entry route for pathogens. Secondly, biological losses are those associated with biotic agents such as fungi, bacteria, viruses and insects, and can be both direct and indirect (one of the most important indirect losses is caused by mycotoxin contamination, for example). And finally, physiological losses, associated with normal metabolic processes (leading to the senescence of plant products), and/or abnormal, which are those associated with alterations in the metabolism, resulting from poor management of the conservation environment, such as temperature.

The issue has generated concern worldwide, and from 2011 FAO has promoted different actions aimed at mitigating food loss. These actions include identification and quantification, as the first step to make the problem visible and to generate mitigation actions.

In this sense, in Uruguay, different studies have been carried out to quantify food loss and waste in different chains. According to data from the TCP/URU



2903 project, funded by FAO and carried out in 2004, losses in the fruit and vegetable chain were around 58% in the harvest and storage stages, where 11% occurred in the marketing stage at both the wholesale and retail level, and 20% at the consumer level. This would represent a total of 24,000 tons per year. More recent studies indicate that in Mercado Modelo, the country's main wholesale market, around 1.5% of the total of fruits and vegetables that enter daily are lost, which represents about 16 tons per day. In the latest study carried out at the national level, for the period 2011-2016, it was indicated that 11% of the food available for consumption would be lost, representing 1 million tons per year, with a value of 600 million dollars, that in the case of fruits and vegetables chain losses reach 12%. The 66% of this value corresponds to losses (production, postharvest and marketing), and 11% corresponds to waste (households)⁽³⁾. Although it is difficult to compare data in this type of studies, because, in general, methodologies and sample sizes differ from one to another, everything seems to indicate that, far from being reduced, losses, specifically in the fruit and vegetable chain, have increased.

Therefore, further work is needed to achieve target 12.3 of the United Nations Sustainable Development Goals, which seeks to halve global per capita food waste at the retail and consumer level, as well as to reduce food losses along the production and supply chains for 2030.

In 2019, within the framework of the 74th General Assembly of the United Nations, September 29 was established as the International Day of Awareness

of Food Loss and Waste. A year later, in the first celebration of this day, the pandemic due to COVID-19 gives another dimension to the food loss and waste topic, as it has been revealed how vulnerable food systems can become and the urgent need to provide definitive solutions.

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