

## A Snapshot of Agricultural Waste in the European Union

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**Abstract :** In the current global context, we face a significant challenge: the rapid population increase combined with the pressing need for sustainable management of agro-industrial waste. Beyond understanding how population growth impacts waste generation, it is essential to first identify the primary types of waste produced and the countries responsible, to guide targeted actions. This study presents key statistical data on waste production from the agriculture, forestry, and fishing sectors across the European Union, alongside information on the agricultural areas dedicated to crop production in each European Union country. These insights will form the basis for future research into waste production by crop type and country, to improve waste management practices and promote recovery methods that are vital for environmental sustainability. The agricultural sector must stay at the forefront of scientific and technological advancements to meet climate change challenges, protect the environment, and ensure food and health security. The study's findings indicate that population growth significantly increases pressure on natural resources, leading to a rise in agro-industrial waste production. EUROSTAT data shows that, in 2020, the agriculture, forestry, and fishing sectors produced over 21 million tons of waste. Spain emerged as the largest producer, contributing nearly 30% of the EU's total waste in these sectors. Furthermore, five countries—Spain, the Netherlands, France, Sweden, and Germany—were responsible for producing more than two-thirds of the waste from these sectors. Regarding agricultural land use, the data for 2020 revealed that around two-thirds of the total agricultural area was concentrated in six countries: France, Spain, Germany, Poland, Romania, and Italy. Regarding waste production per capita, the Netherlands had the highest figures in the EU for 2020. The data presented in this study highlights the urgent need for action in managing agricultural waste in the EU. As population growth continues to drive up demand for agricultural products, waste generation will inevitably rise unless significant changes are made in managing of agro-industrial waste. The countries must lead the way in adopting technological waste management strategies that focus on reducing, reusing, and recycling waste to benefit both the environment and society. Equally important is the need to promote collaborative efforts between governments, industries, and research institutions to develop and implement technologies that transform waste into valuable resources. The insights from this study are critical for informing future strategies to improve the management and valorization of waste from the agro-industrial sector. One of the most promising approaches is adopting circular economy principles to create closed-loop systems that minimize environmental impacts. By rethinking waste as a valuable resource rather than a by-product, agricultural industries can contribute to more sustainable practices that support both environmental health and economic growth.

**Keywords :** agricultural waste, population growth, agricultural area, environmental challenges, circular economy

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