



AGFD Webinars



Agricultural and Food Chemistry Division
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Use of Agro-based Materials to Reduce Plastic Pollution

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Most of the chemical materials today are derived from nonrenewable sources such as petroleum and natural gas, which are problematical because of their finite supply, fluctuating prices, and contribution to greenhouse gas emissions and climate change. Thus, there is a growing interest in using agro-based materials and capitalizing on their sustainability, eco-friendliness, enhanced recyclability, and non-toxic nature. Furthermore, many agricultural materials are underutilized and undervalued, and farmers can benefit from new, value-added products derived from agro-based materials. An important opportunity lies in the use of agro-based materials to reduce plastic pollution and microplastics. Indeed, plastic pollution, including the vast amounts of plastic waste and accumulation in landfills, has become an increasingly urgent problem. Microplastics are ubiquitous and have been shown to pose potential risks to human health. In this talk, several types of agro-based waste and byproducts, such as wheat straw, barley straw, cashew shells, and cotton byproducts, will be shown as examples of the conversion of agro-based materials and potential microplastics into value-added materials. Given the large amount of available waste and byproducts in agriculture and the food industry, these resources present a significant opportunity for innovation. By leveraging them, we can help reduce the plastic pollution problem in the future.

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