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Applied Biotechnology for Industrial Crop Products

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Message from the Guest Editor

Applied biotechnology can theoretically revolutionize crop production to improve crop traits and their sustainability. However, the use of biotechnology, apart from a few examples, has been underexploited. The array of applications is potentially vast considering the advances in molecular tools such as next generation sequencing, which has made more crop species tractable, and genetic engineering approaches using CRISPR-Cas platforms. Developing food crops with improved nutritional value or changes for the production of pharmaceuticals is highly desired. However, there are many genetic engineering schemes that have industrial applications. These include schemes for the production of biomass which serve as a feedstock for biomaterials (i.e., fuels), the production of biodegradable plastics in plants (i.e., polylactic acid or polyhydroxyalkanoates), as well as the production of industrial enzymes for textile or food processing and biomass processing for biofuel production. An important aspect of applied biotechnology is that it can reduce our reliance on chemicals, which have had a track record of damaging the environment and human health.



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Message from the Editor-in-Chief

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