Special Issue

Agrotechnics in Seed Quality: Current Progress and Challenges

Message from the Guest Editors

Around the world, the seed industry has undergone many transformations driven by recent trends in digital agriculture, such as robust optical sensors, software, robotics, automation, and sophisticated data analyses. Sustainable methods have been developed based on non-destructive measurements without relying on human vision. An important approach that has contributed to the implementation of digital solutions is the creation of machine learning models. These models can automatically diagnose the genetic, physical, chemical, physiological, and health attributes of seed quality. For example, knowledge of the electromagnetic properties of the seed tissues has enabled the non-invasive detection of mechanical damage, insects, and physiological disturbances in agricultural seeds. This Special Issue focuses on the main technologies for autonomous seed quality screening, including spectroscopy, multispectral imaging, radiographs, and autofluorescence, among others, with an emphasis on agricultural challenges and current trends to assess seed quality parameters.

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