

Special Issue

The Revision of Production Potentials and Yield Gaps in Field Crops

Message from the Guest Editors

In the face of rising global food demand and increasingly variable climatic conditions, narrowing the yield gap in field crops has become a key research priority. This Special Issue aims to comprehensively revise the concepts of production potential and yield gaps across diverse cropping systems and agroecological zones. We welcome innovative contributions that explore physiological, genetic, environmental, and management-related factors influencing yield potential, along with spatial and temporal yield variability. Studies that apply advanced modeling tools, remote sensing, AI-driven decision support systems, and big data analytics to quantify and interpret yield gaps are particularly encouraged. Moreover, we seek interdisciplinary research on the role of agronomic practices such as precision agriculture, optimized fertilization and irrigation, sustainable crop rotations, and the use of biostimulants and soil amendments in bridging the gap between actual and potential yields. Contributions that assess the socio-economic and policy dimensions of yield gap reduction are also welcome.

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