



Crop Systems Biology : Narrowing the gaps between crop modelling and genetics

By Xinyou Yin

Springer-Verlag GmbH Nov 2015, 2015. Buch. Condition: Neu. Neuware - The sequencing of genomes has been completed for an increasing number of crop species, and researchers have now succeeded in isolating and characterising many important QTLs/genes. High expectations from genomics, however, are waving back toward the recognition that crop physiology is also important for realistic improvement of crop productivity. Complex processes and networks along various hierarchical levels of crop growth and development can be thoroughly understood with the help of their mathematical description - modelling. The further practical application of these understandings also requires quantitative predictions. In order to better support design, engineering and breeding for new crops and cultivars for improving agricultural production under global warming and climate change, there is an increasing call for an interdisciplinary research approach, which combines modern genetics and genomics, traditional physiology and biochemistry, and advanced bioinformatics and modelling. Such an interdisciplinary approach has been practised in various research groups for many years. However, it does not seem to be fully covered in the format of book publications. We want to initiate a book project on crop systems biology - narrowing the gaps between genotypes and phenotypes and the gaps between crop modelling and genetics/genomics,...



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