[O42] Assimilate Partitioning for Crop Productivity and Quality

Chair: Naohiro Aoki (The University of Tokyo, Japan)
Chair: Tatsuro Hirose (Takasaki University of Health and Welfare, Japan)
Chair: Yong-Ling Ruan (The University of Newcastle, Australia)
Thu. Sep 9, 2021 2:30 PM - 4:30 PM Room 4 (Oral) (Crop Genetics and Physiology)

2:30 PM - 2:50 PM

[O42-01]Assimilate Partitioning in Crops: Developmental, Molecular, and Metabolic Aspects of Source-sink Interactions

(Invited Speaker)
○Yong-Ling Ruan (School of Environmental and Life Sciences, The University of Newcastle, Australia)

In plants, interconnected metabolic and phytohormonal signalling networks allow adaption to changing environmental and developmental conditions and ensure the survival of species in fluctuating environments. By lifting source and sink activities to their maximum, massive yield increases can be foreseen, potentially closing the future yield gap resulting from an increasing world population and the transition to a carbon-neutral economy. To do so, a better understanding of the interplay between metabolic and developmental processes is required. In the past, these processes have been tackled independently from each other, but coordinated efforts are required to understand the fine mechanics of source– sink relations and thus optimize crop yield. Here, I introduce approaches to design high-yielding crop plants utilizing strategies derived from current metabolic concepts and our understanding of the molecular processes determining sink development.

©ACSAC10