



University of Tsukuba

Plant Transgenic Design Initiative

53rd PTraD Research Seminar

T-PIRC Research Seminar

Date and Time: 2020/1/22 (Wed) 13:30 –14:15

Place: Gene Research Center, Seminar Room (211)

Endoreduplication Gene Regulatory Networks in Tomato Fruits

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In the Tomato fruit, endoreduplication occurs simultaneously with cell expansion. Endoreduplication, during which cells increase their DNA content (ploidy) through successive rounds of full genome replication without cell division, is proposed to be a mean to produce large cells. In tomato fruit, ploidy levels can reach very high levels that are often correlated with very large cells. Our main objective is thus to understand the potential role of endoreduplication in cell size control and dissect the molecular regulation of this process. As a first step, we are determining the spatiotemporal distribution of gene expression based on the ploidy levels in the fleshy part of the fruit (pericarp) during development. Our major question is why plants produce cells with increased nuclear DNA content while they have a diploid genome.

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