

Plant Genomics

July 14-15, 2016 Brisbane, Australia

Molecular and cytological studies on pollen development in autotetraploid rice

0 X K D P P D G 4 D V l a r d 6 L X D K L L D G J ' R Q J
South China Agricultural University, China

Autotetraploid rice has a great genetic potential to increase the rice production but lower pollen fertility is a major barrier in its utilization. Intersubspecific autotetraploid rice hybrids showed greater genetic variation compared to their diploid counterparts. Here, we observed the pollen development and its relation with seed set in autotetraploid rice. Microgametogenesis in autotetraploid rice was similar to diploid rice but different kinds of abnormalities, including microspores degeneration, cytoplasm shrinkage and abnormal cell walls were found in autotetraploid rice. Many different kinds of chromosomal abnormalities were found during various development stages of pollen mother cell meiosis such as chromosome lagging, chromosome straggling, pre-separation of two chromosome set, randomly arranged chromosome on the equator, abnormal spindle and incomplete/no separation of cytokinesis.

Notes: