

S010 Epigenetic mechanisms establishing interploidy hybridization barriers in the endosperm
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Polyploidization is a widespread phenomenon among plants and is considered a major speciation mechanism. Polyploid plants have a high degree of immediate post-zygotic reproductive isolation from their progenitors, as backcrossing to either parent will produce mainly nonviable progeny. This reproductive barrier is called triploid block and it is caused by malfunction of the endosperm. Recent work from our laboratory revealed that the FERTILIZATION INDEPENDENT SEED (FIS) Polycomb Repressive Complex2 (PRC2) plays a major role in establishing the triploid block. We could furthermore show that the FIS PRC2 is required to balance the contributions of maternally and paternally inherited genomes in the endosperm, implicating that deregulated parent-of-origin specific genes manifest the triploid block in the endosperm. To elucidate the underlying mechanisms establishing the triploid block we have performed a suppressor screen aiming to identify mutants that form viable triploid seeds. One of the identified mutants will be presented on this conference. Based on this knowledge we will discuss a model explaining the underlying epigenetic basis underpinning interploidy hybridization barriers in the endosperm.