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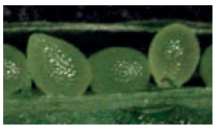
Editors' Choice

PLANT BIOLOGY

Cell Fate and Gametes

Most eukaryotes, including plants, form female gametes or eggs. In *Arabidopsis thaliana,* the egg is formed from a haploid spore that undergoes multiple division cycles to create a structure known as a gametophyte that contains eight nuclei in four different cell types, including the egg. By examining egg-specific mutants, Gross-Hardt *et al*. were able to identify a gene, *LACHESIS* (*LIS*), that controls cell fate in egg development, independent of other gametophytic tissues. In heterozygote plants lacking one functional copy of *LIS*, 50% of the resulting gametophytes are malformed with multiple eggs, suggesting that *LIS* functions in the developmental specification of the egg. Furthermore, these eggs derive from a specific gametophytic cell type, the accessory cell, which forms next to the egg, potentially acting as a reserve in case of reproductive failure. *LIS* encodes a WD40 repeat protein homologous to a yeast splicing factor, which suggests that some aspects of cell fate may be controlled by the spliceosome. — LMZ



Wild-type set of seeds.