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Cover Illustration: Heterosis—or hybrid vigor—refers to the superior performance of progeny from two unrelated parents that have been inbred for several generations. In the United States, most maize cultivars are hybrids, a result of continuous advancements in breeding programs in the last several decades. In maize hybrid breeding programs, inbred lines are first developed within heterotic groups and then crossed between groups to obtain vigorous hybrids. The traditional process to generate inbred lines, however, requires multiple rounds of self-pollination, and it can thus take 2–3 years to obtain near-homozygous inbred lines. Doubled haploid (DH) technology provides an attractive alternative, allowing the development of inbred lines in only two generations. Briefly, the DH method is based on inducing haploids seeds, artificially doubling the genome of haploid seedlings, and then self-pollinating the doubled plants to generate completely homozygous plants. In this issue, Grüning et al. describe a protocol for the generation of maize DH lines using maternal haploid-inducing maize lines (doi:10.1101/pdb.prot108624). The cover image shows an ear of maize segregating for an active transposable element. The color spots on the kernels are somatic sectors in which a reporter *Mu* element had excised during development. In this ear, those excisions were dependent on an autonomous *MuDR* element released from an epigenetic silencing due to a novel position effect. Image provided by Damon Lisch.

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