



FIGURE 13.3. The complementation test is used to show whether two recessive alleles that produce the same phenotype (*asterisk*) when homozygous are alleles of the same gene. Homozygous individuals from each mutant strain are crossed to wild type to produce heterozygotes (middle row in *A* and *B*). (*A*) When heterozygotes are mated with each other, 25% of the offspring will show the recessive phenotype if the alleles are variants at the same gene. (*B*) However, if the alleles are at different genes, all the offspring will be wild type. This is because individuals that carry the two recessive alleles (one at each gene) will also carry the wild-type alleles at both genes (bottom right in *B*).