

Application of the juxtaposition effect for enhancing crossover frequency in targeted chromosomal regions

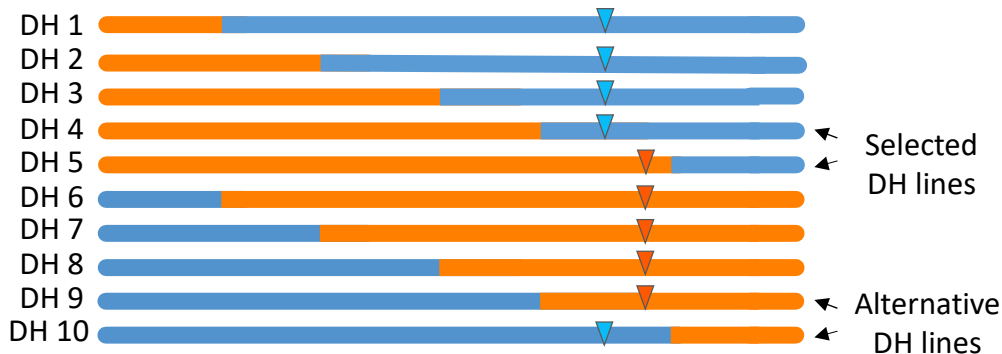
Goal: Combine two linked QTLs



Challenge: Few recombinants (tight linkage)

Strategy: Use the juxtaposition effect.

Step 1: Generate DH from F1 (P1 × P2).



Note: DH genomes are parental mosaics.

Step 2: Select two DHs differing at target.



Step 3: Cross selected DH lines and look for QTL1–QTL2 recombinants.



Outcome: 3× more recombination in target interval.

Mechanism: Crossovers shift from adjacent homozygosity.

Result: Desired recombinant—goal achieved.

