

# GWAS model **extensions**

## - Polyploid Species -

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# Ployploidy

- Heritable condition of possessing more than two complete sets of chromosomes.
- Common among plants, certain groups of fish and amphibians.
- For instance, some salamanders, frogs, and leeches are polyploids.

**Autopolyploidy** occurs when a polyploid offspring is derived from a single parental species.

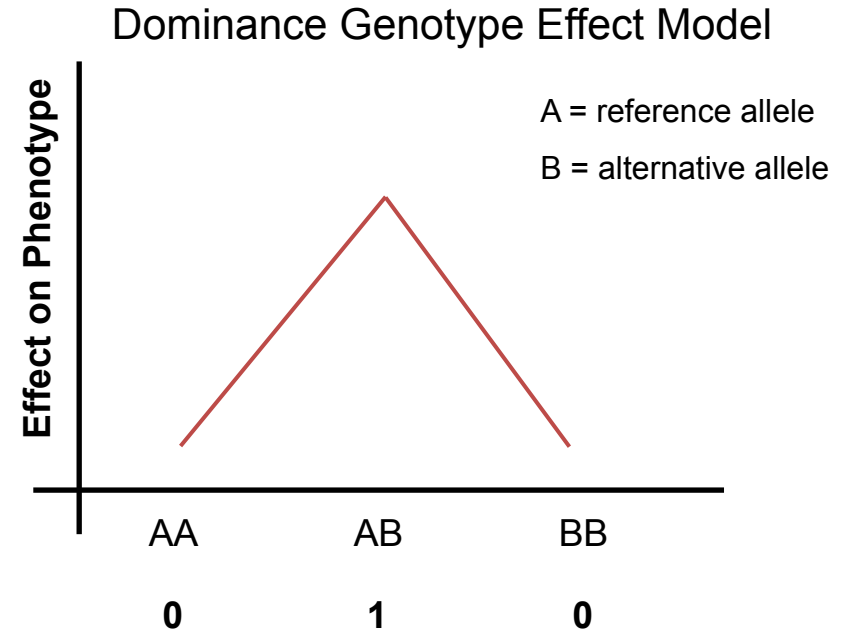
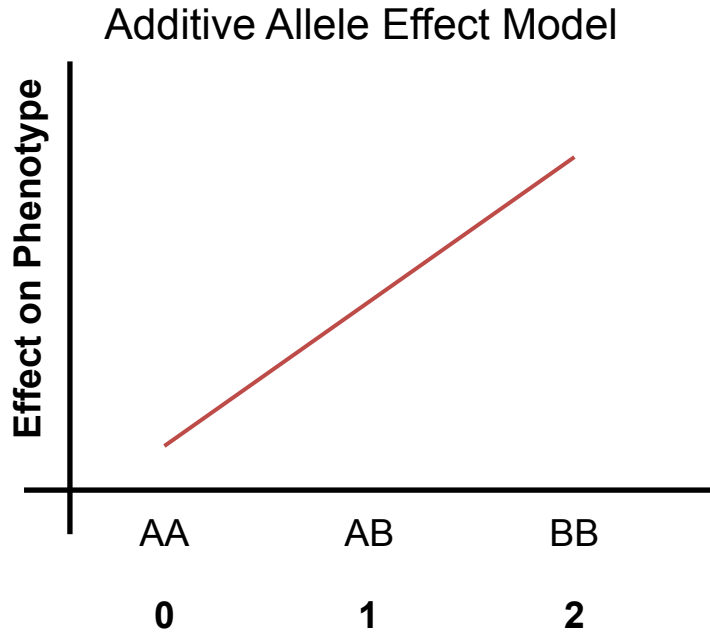
- Genome duplication

**Allopolyploidy** occurs when a polyploid offspring is derived from two distinct parental species.

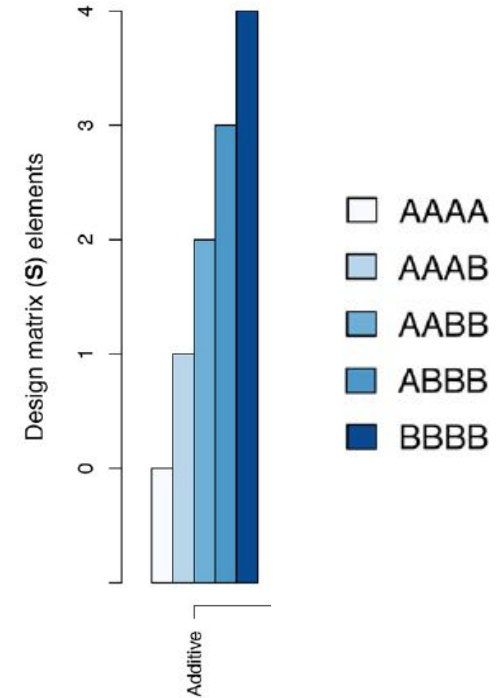
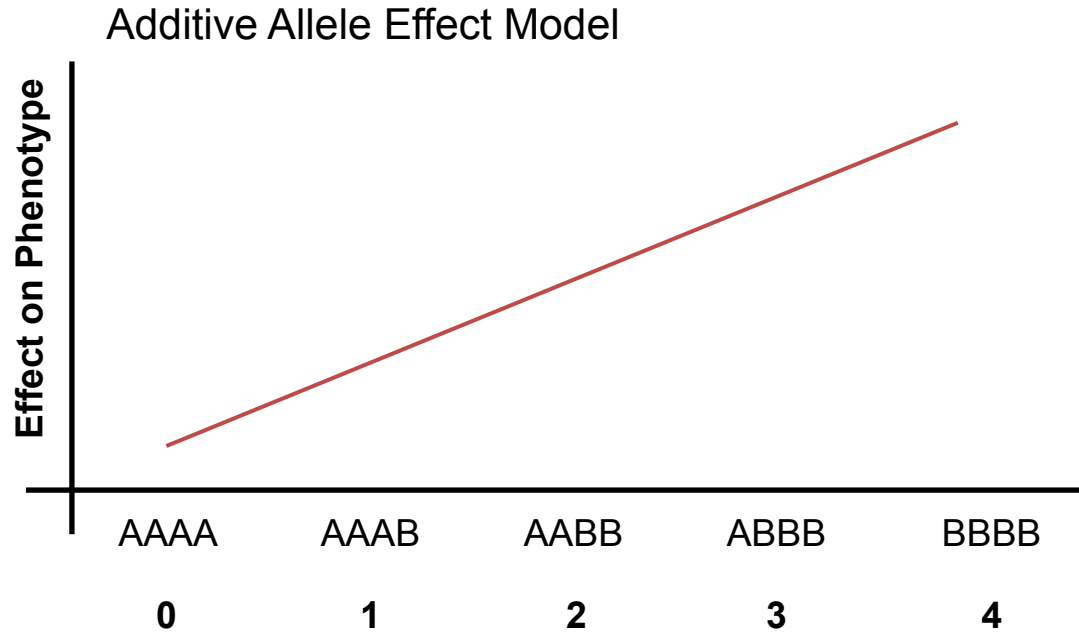
- Genome hybridization (diploid-like behavior)



# Diploid Species – Additive + Dominance Model

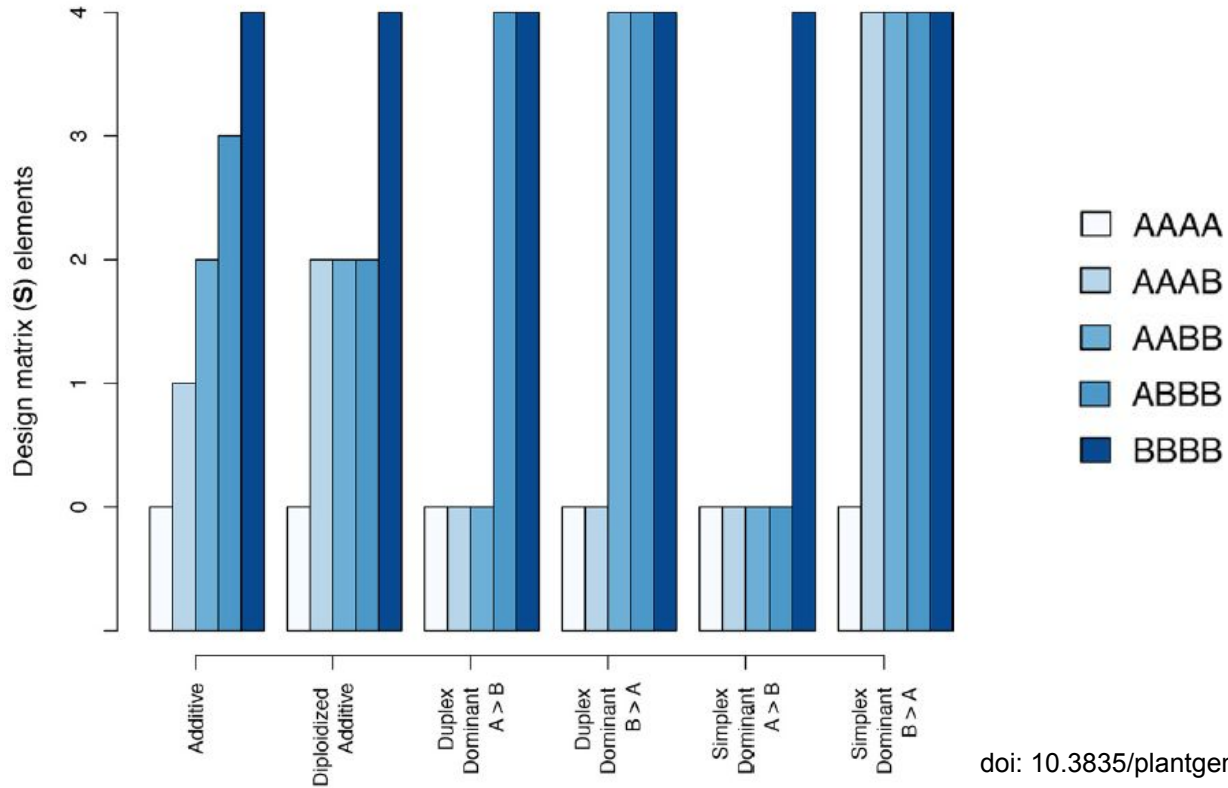


# Tetraploid Species – Additive Model



doi: 10.3835/plantgenome2015.08.0073

# Tetraploid Species – How to include non-additive gene action?



doi: 10.3835/plantgenome2015.08.0073

# Tetraploid Species – Duplex Dominance (non-linear regression)

