

Comparison of Genotype Frequencies between base population and population with inbreeding F after a certain number of generations

Genotypes	Base Population
A_1A_1	p_0^2
A_1A_2	$2p_0q_0$
A_2A_2	q_0^2

Hardy-Weinberg

Population with inbreeding of F

$$\overline{p^2} = p_0^2 + p_0q_0F$$

$$2pq = 2p_0q_0 - 2p_0q_0F$$

$$\overline{q^2} = q_0^2 + p_0q_0F$$

□ Genotypic Values

$$\begin{array}{l|l} A_1A_1 & p_0^2 + p_0q_0F \\ A_1A_2 & 2p_0q_0(1-F) \\ A_2A_2 & q_0^2 + p_0q_0F \end{array} \quad \begin{array}{l} a \\ d \\ -a \end{array}$$

□ Inbreeding Depression is the term that is used for the change in population mean due to inbreeding