Gametes = 2^n n = No. of Heterogametes.

$AABbCc \Rightarrow 2^2$

$AaBbCc \Rightarrow 2^3$ = 1/8

$AABBCc \Rightarrow 2^1$

$\underset{2^0}{AA}\ \underset{2^0}{BB}\ \underset{2^1}{Cc}$

$= 2^n \quad \underset{2^0}{AA}\ \underset{2^1}{Bb}\ \underset{2^1}{Cc}$

Types of genotype = 3^n

Types of Gametes $\Rightarrow 2^n \Rightarrow$ phenotypic category.

No. of zygote produced in Selfing of a genotype 4^n

2^n, 3^n 4^n

Gametes formation

2^n — $2^1 = 2$

2^n = n = Heterozygote

Progametes.

of genotype = 3^n

AA, Aa, AABb, AaBb, AABBCc, AABbCc, AaBbCc

2^0, 2^1, 2^1, 2^2, 2^1, 2^2, 2^3

A — (A) ½ (a) ½ — ①

A → B, b

AaBb ⟹

A → B → AB 1/4 = 25%

A → b → Ab 1/4 = 25%

a → B → aB 1/4 = 25%

a → b → ab 1/4 = 25%

2^n — Gametes formation

$2^1 = 2$

2^n = n = Heterozygote

Progametes.

No. of genotype = 3^n

$aaBBCc \times AaBbCc$

$AaBbCc$ ⇒ $\frac{1}{8}$

A → B → C ⇒ ABC = 1/8
A → B → c → ABc = 1/8
A → b → C → AbC = 1/8
A → b → c → Abc = 1/8
a → B → C → aBC = 1/8
a → B → c → aBc = 1/8
a → b → C → abC
a → b → c → abc

Gametes formation

2^n — $2^1 = 2$

2^n = n = Heterozygote

Zygogametes.

of genotype = 3^n

$AABBC_C$?

$AABb C_C$ = ?

A_aBb = (4) → $A_aB_bC_C$ = (1/8)

A → B → AB = 1/4

A → b → Ab = 1/4

q → B → aB = 1/4

q → b → ab = 1/4

25% each

A → B → C ⇒ ABC = 1/8

A → B → c → ABc = 1/8

A → b → C → AbC = 1/8

A → b → c → Abc 1/8

q → B → C → aBC = 1/8

q → B → c → aBc = 1/8

q → b → C → abC

q → b → c → abc

GENE INTERACTION

Allelic / Intragenic interaction
allele - same gene
same locus.

Incomplete dominance

1) (Mirabilis jalapa)
4 o' clock pl
Gul-e-bas

3:1

RR (Red) × rr (White) → (P)

R × r

Rr All pink

♀ \ ♂	R	r
R	RR	Rr
r	Rr	rr

phenotype
Red : pink : White
1 : 2 : 1

Genotype RR Rr rr.
1 : 2 : 1

GENE INTERACTION

Co-dominance

AB Blood = $I^A I^B$

→ AB Blood group $I^A I^B$ × White R_2R_2 B_1B_1 B_2B_2

→ Carrier of sickle cell anemia R_1R_2 × B_1B_2

↳ ($Hb^A Hb^S$)

(Room color)

	R_1	R_2
R_1	R_1R_1	R_1R_2
R_2	R_1R_2	R_2R_2

R_1R_1 = Black R_1R_2 (Roan R_2R_2

1 : 2 : 1