

5.4 Law of Independent Assortment

Dihybrid Cross

Law of **Independent Assortment**

Separation

STATEMENT :

"When two contrasting pair of traits are followed in the same cross, their alleles assort independently into gamete".

TRAITS :

SEED COLOUR

Yellow
(Dominant)

Green
(Recessive)

SEED SHAPE

Round
(Dominant)

Wrinkled
(Recessive)

DOMINANT PHENOTYPE TRUE BREEDING :

P₁

RRYY
(Round, Yellow)

x

rryy
(Wrinkled, Green)

F₁

RY

ry

RrYy

(Round, Yellow)

















RrYy

x

RrYy

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 SSYY	 SSYy	 SsYY	 SsYy
 SSyY	 SSyy	 SsyY	 Ssyy
 sSYY	 sSYy	 ssYY	 ssYy
 sSyY	 sSyy	 ssyY	 ssyy

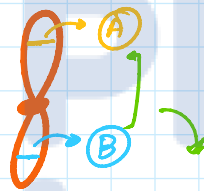
	RY	Ry	rY	ry
RY	RRYY	RRYy	RrYY	RrYy
Ry	RRYy	RRyy	RrYy	Rryy
rY	RrYY	RrYy	rrYY	rrYy
ry	RrYy	Rryy	rrYy	rryy

PHENOTYPIC RATIO :

PHENOTYPIC RATIO :

? 9	:	? 3	:	3 ?	:	1 ?
Round, Yellow	:	Round, Green	:	Wrinkled, Yellow	:	Wrinkled, Green
$\frac{3}{4} \times \frac{3}{4}$		$\frac{3}{4} \times \frac{1}{4}$		$\frac{1}{4} \times \frac{3}{4}$		$\frac{1}{4} \times \frac{1}{4}$
$\frac{9}{16}$:	$\frac{3}{16}$:	$\frac{3}{16}$:	$\frac{1}{16}$

LIMITATIONS:



- Chromosome's independant Assortment
- Gene linkage

- Alleles riding on Non-homologous chromosome.

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