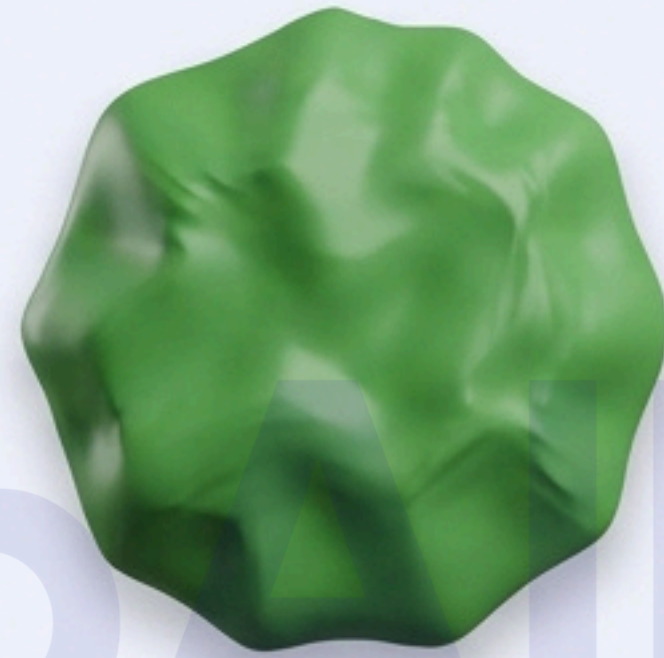


The Dihybrid Cross: Tracking Two Variables



Shape: Round (R) | Colour: Yellow (Y)

Genotype: RRYYY

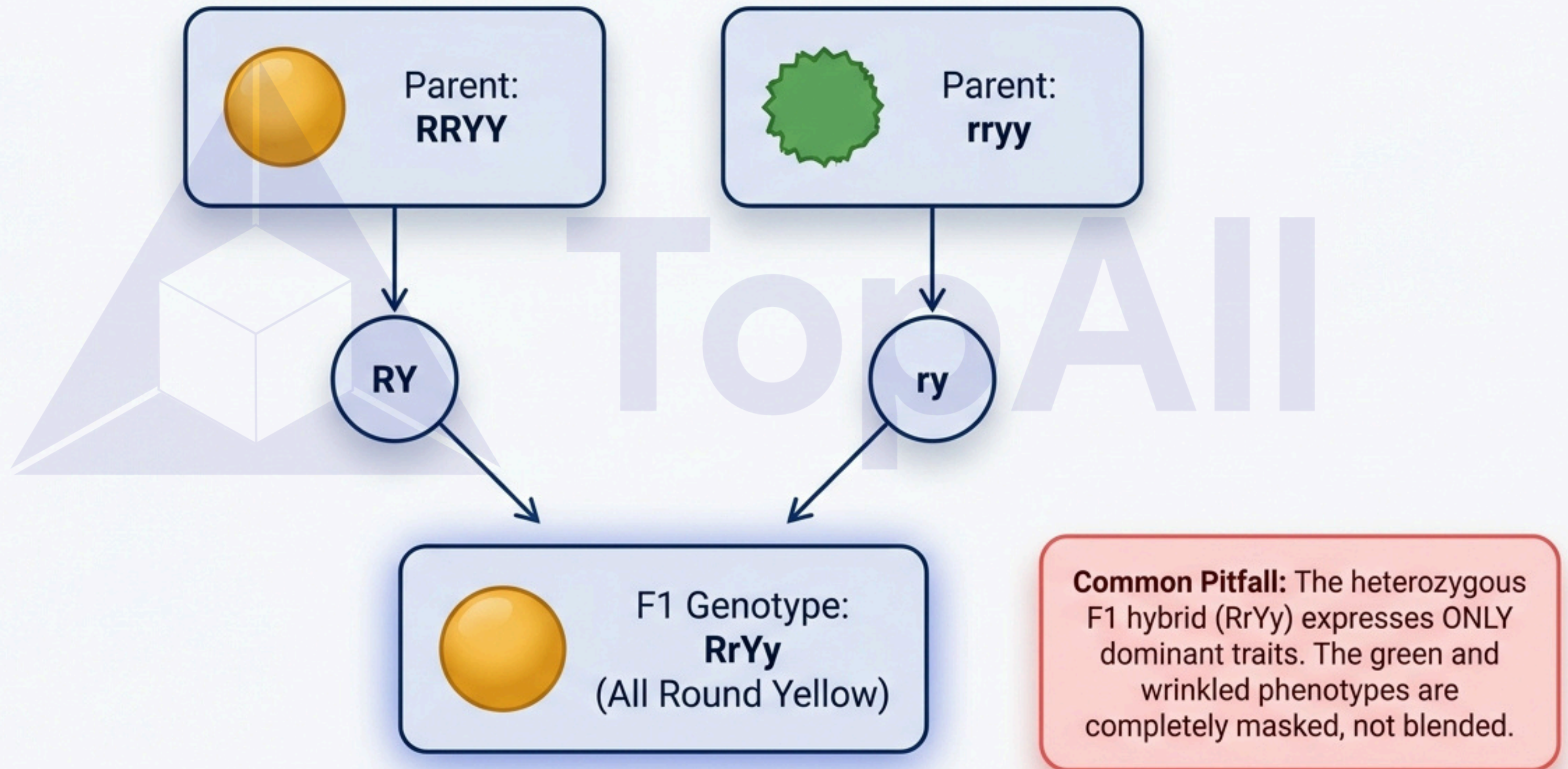


Shape: Wrinkled (r) | Colour: Green (y)

Genotype: rryy

The dihybrid cross tracks the inheritance of two separate genes together.

The Parental Cross Yields a Uniform First Generation





You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



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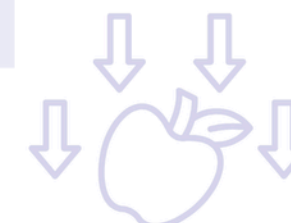
Practice Now



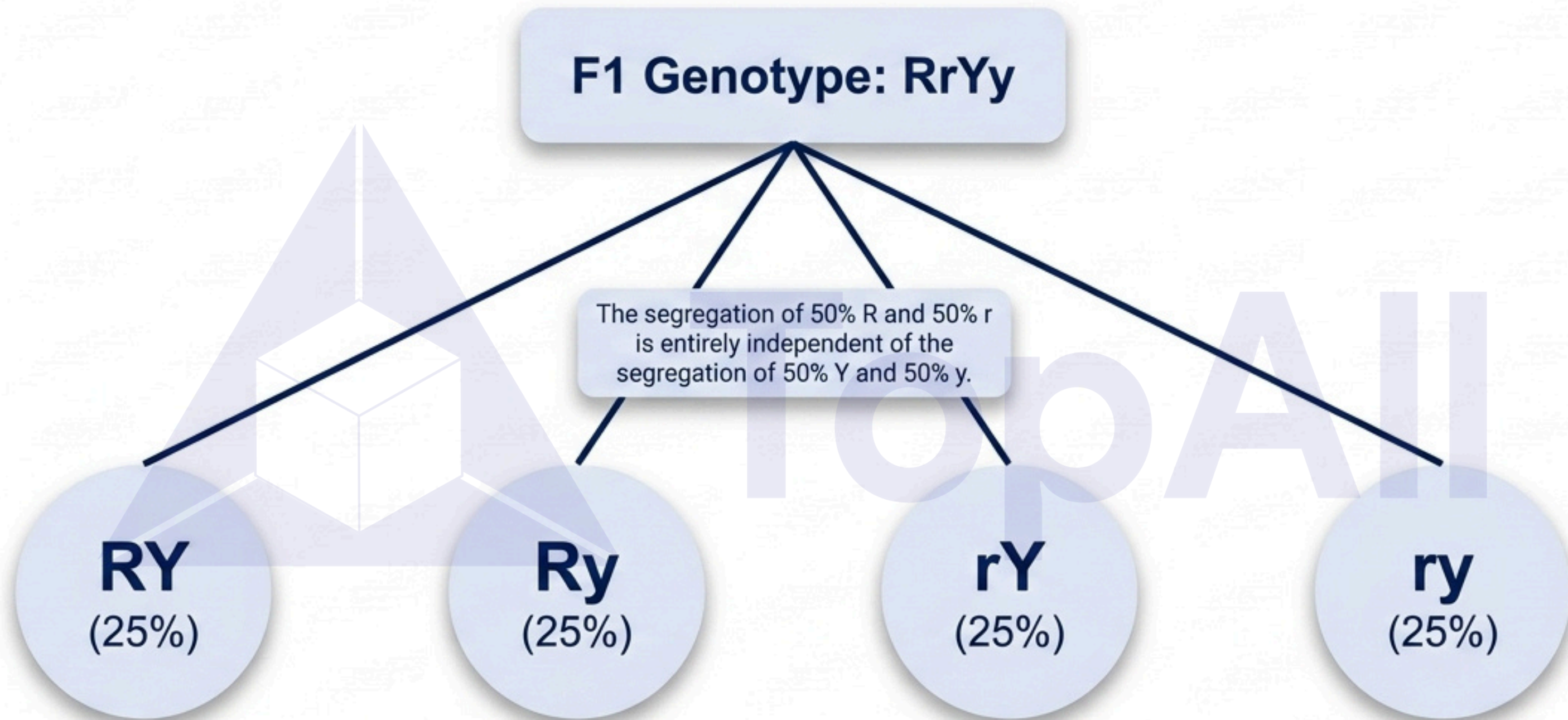
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Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



Independent Assortment Generates Four Unique Gametes



Quick-Tip Card

Use the FOIL method (First, Outer, Inner, Last) on the $RrYy$ genotype to ensure you never miss a gamete combination.

Mapping the F2 Generation Matrix

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

Deriving the 9:3:3:1 Phenotypic Ratio

9



Round
Yellow

3



Round
Green

3



Wrinkled
Yellow

1

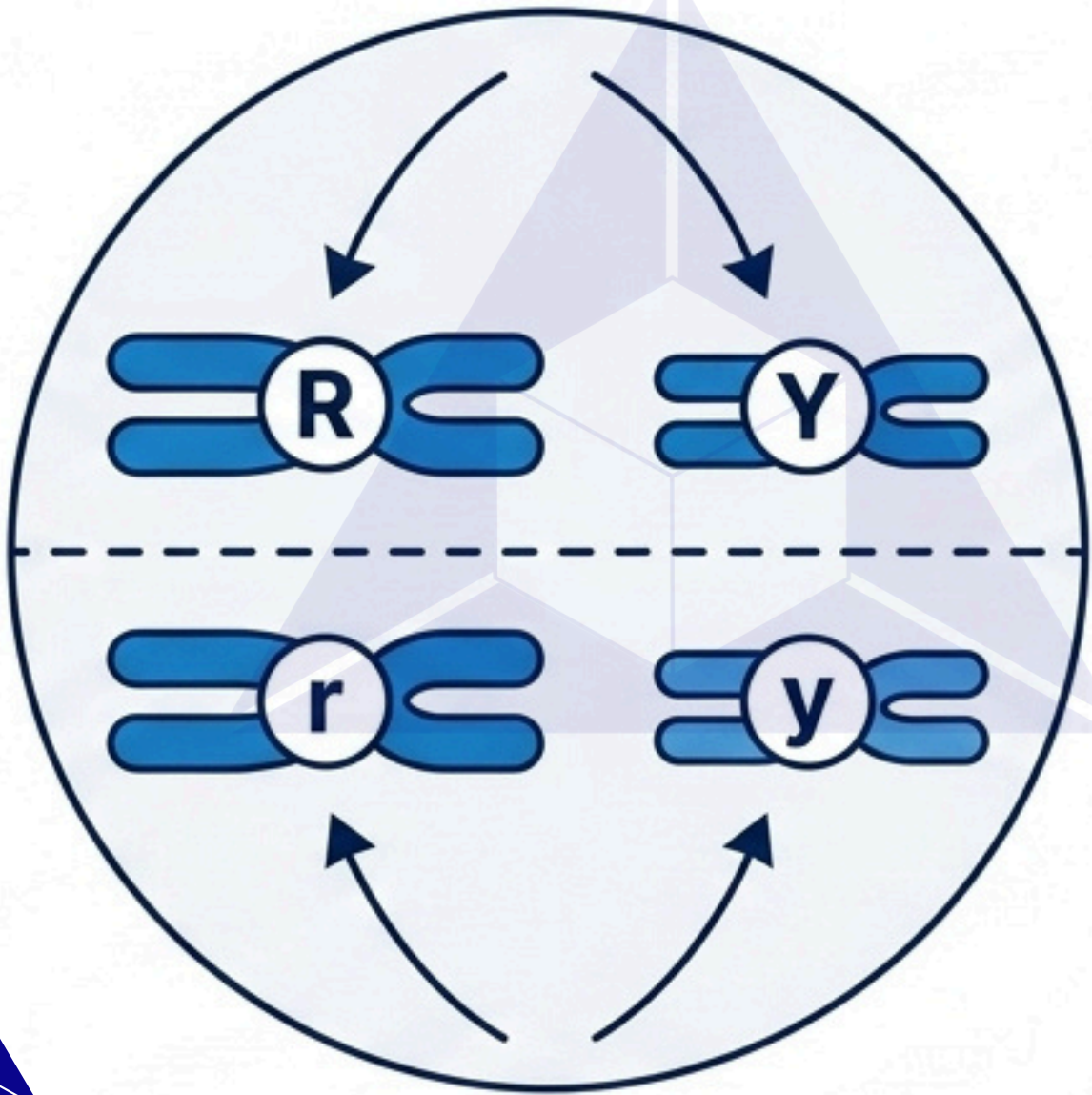


Wrinkled
Green

$$(3 \text{ Round} : 1 \text{ Wrinkled}) \times (3 \text{ Yellow} : 1 \text{ Green}) = 9:3:3:1$$

The dihybrid ratio is simply two independent monohybrid (3:1) probability ratios superimposed on one another.

Mendel's Second Law: Independent Assortment



When two pairs of traits are combined in a hybrid, the segregation of one pair of characters is entirely independent of other pair of characters.



You've Learned the Theory.

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