

Dihybrid Crosses

Principle of Independent Assortment = when gametes are formed, the alleles of a gene for one trait segregate independently of the alleles of a gene for a different trait

Ex. Round = R Yellow = Y
 Wrinkled = r Green = y
 P RRYY x rryy

Ex: RRYY = round, yellow pea
 rryy = wrinkled, green pea
 Rr yy = round, green pea

F₁

All RrYy

↓ Self-pollinates

first outside inside last
FOIL to find possible gamete combos)

	RY	Ry	ry	ry
RY	RRYY round yellow	RRYy round yellow	RrYY round yellow	RrYy round yellow
Ry	RRYy round yellow	RRyy round green	RrYy round yellow	Rryy round green
ry	RrYY round yellow	RrYy round yellow	rrYY wrinkled yellow	rrYy wrinkled yellow
ry	RrYy round yellow	Rryy round green	rrYy wrinkled yellow	rryy wrinkled green

- Keep the same letter first every time
- Keep the like letters together
- Always put capital (dominant) letters first if available

9:3:3:1 = 16 total
 9 round yellow
 3 round green
 3 wrinkled yellow
 1 wrinkled green

→ To determine what allele combos you can make from the parent... FOIL

FOIL

RrYy

RY Ry ry ry