

Leggi di Mendel

terminologia



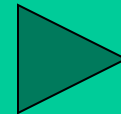
Prima legge



uniforme



Seconda legge



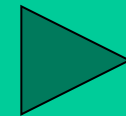
Prima e seconda legge



schema



Terza legge



Carattere: elemento preso in considerazione; colore, altezza..

**Allele: aspetto che può presentare un carattere;
rosso-verde..alto-basso**

Si indica un carattere con una sigla

**Si indica allele dominante con lettera maiuscola,
recessivo con minuscola**

Dominante A prevale su allele recessivo a

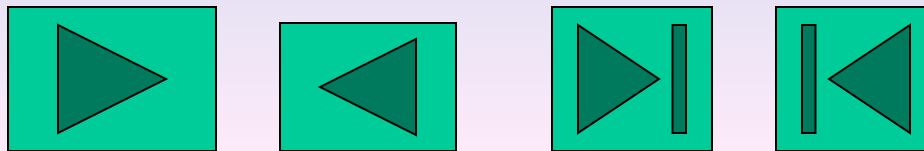
Codominante :allele equivalente ad altro allele A-B

Razza pura=omozigote per un carattere AA...aa

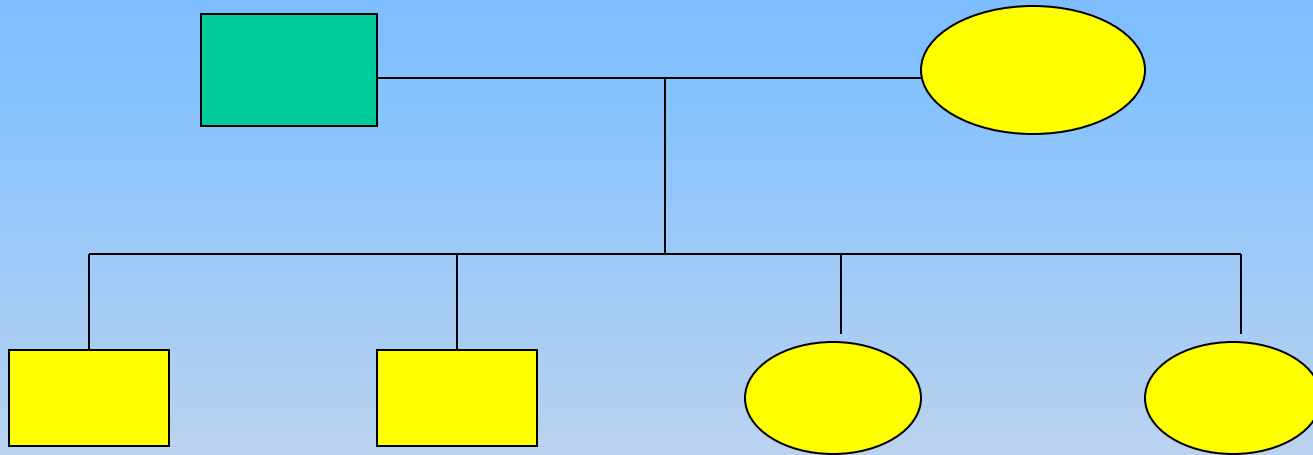
Ibrido=eterozigote per un carattere Aa

Genotipo:insieme degli alleli presenti nei cromosomi

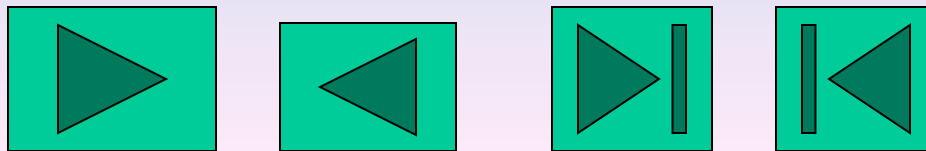
Fenotipo:insieme degli alleli che si manifestano



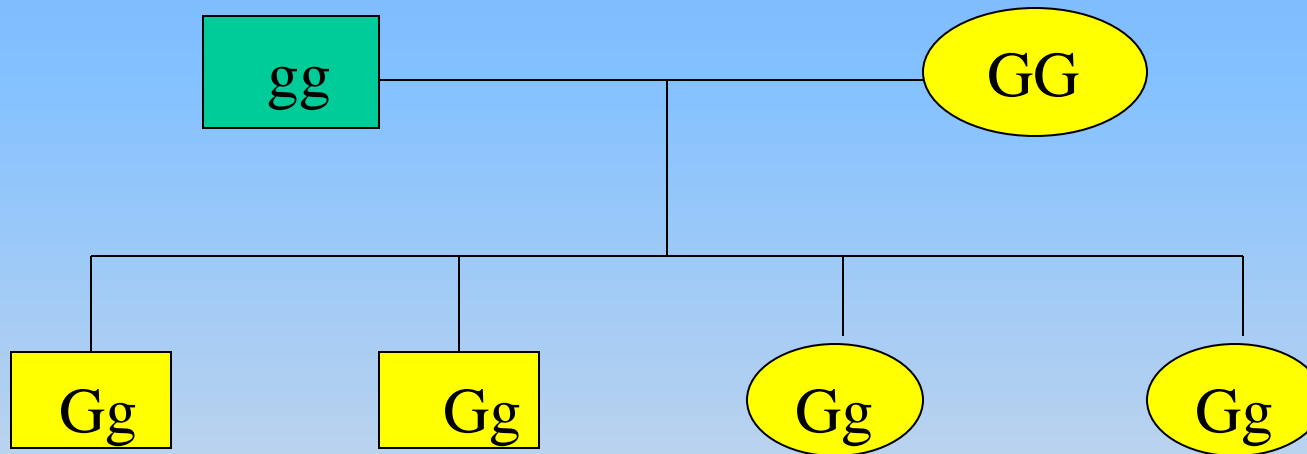
**Incrociando due individui omozigotici per un carattere,
i discendenti della prima generazione filiale presentano
tutti lo stesso fenotipo**



Giallo dominante su verde:100% fenotipo giallo

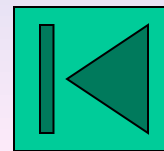
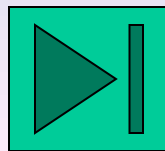
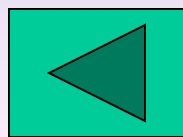
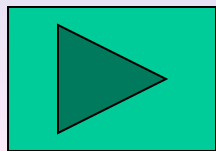


Gli alleli G-g presenti in coppia nei genitori, si separano nei gameti: con la fecondazione ogni individuo riceve da ogni genitore un solo allele della coppia originale

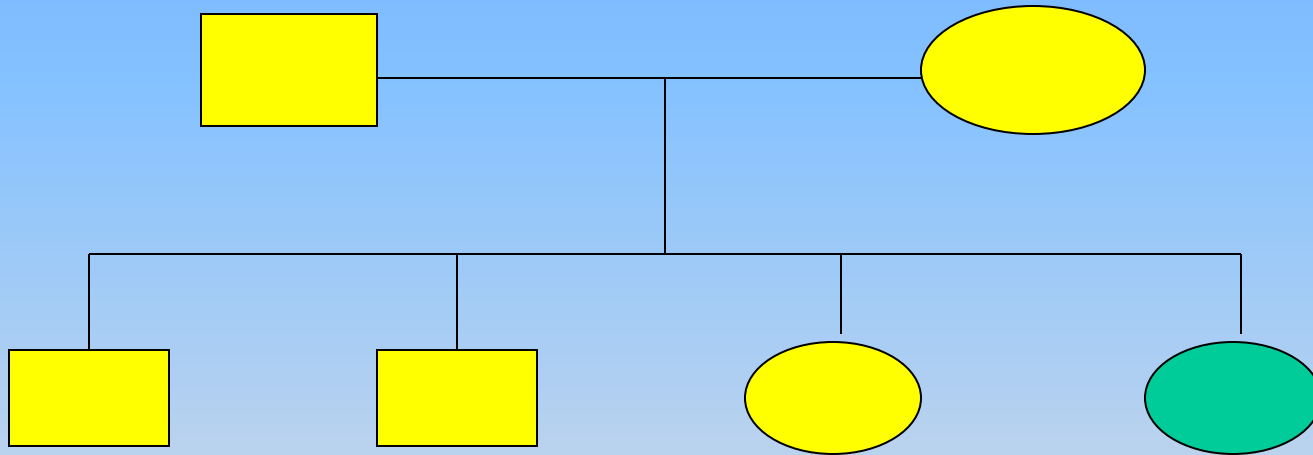


100% fenotipo dominante giallo

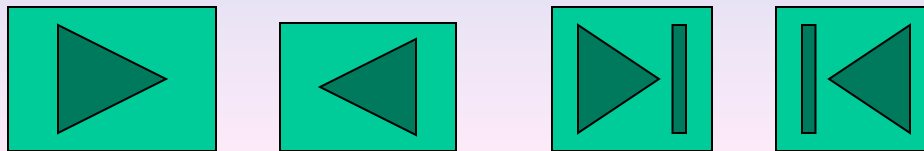
100% eterozigoti Gg



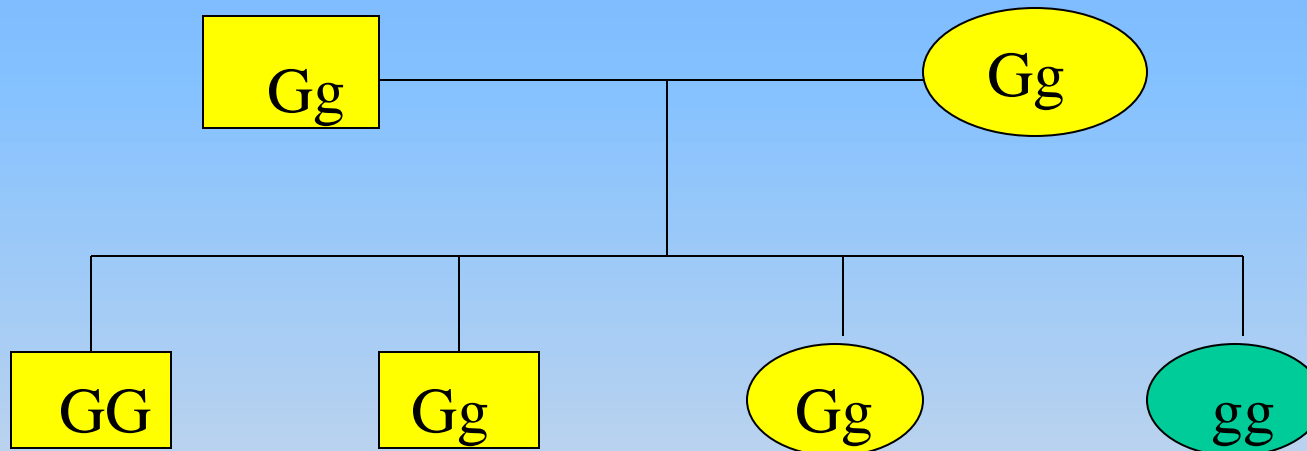
**Incrociando due individui eterozigotici per un carattere,
i discendenti della seconda generazione filiale presentano
fenotipo dominante 75% e fenotipo recessivo 25%**



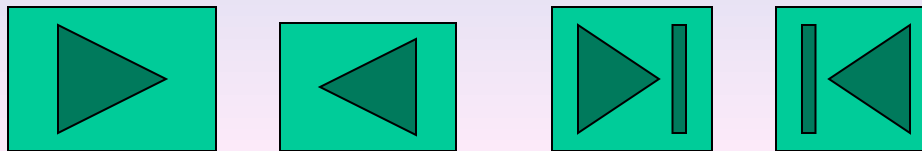
75 % fenotipo dominante e 25 % fenotipo recessivo



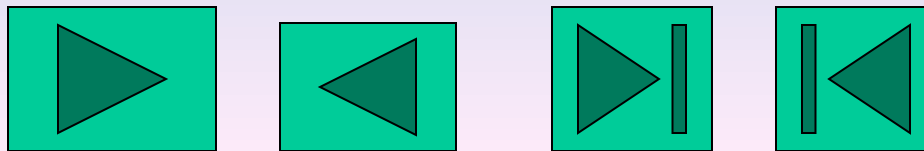
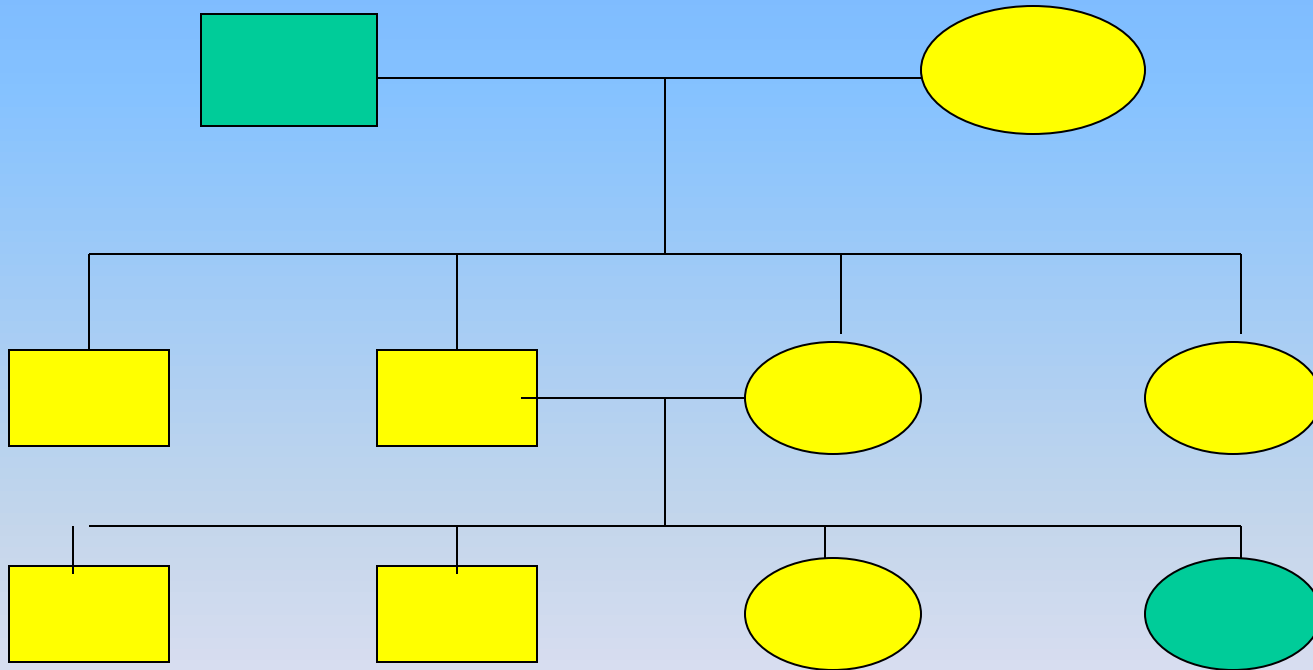
Incrociando due individui eterozigotici per un carattere, i discendenti della seconda generazione filiale presentano fenotipo dominante 75% e fenotipo recessivo 25%



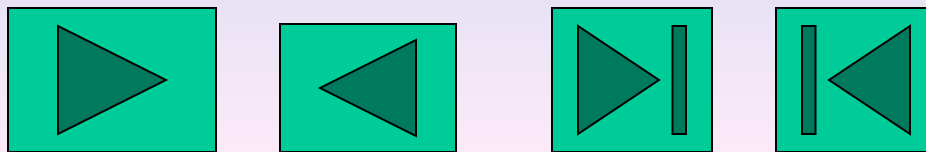
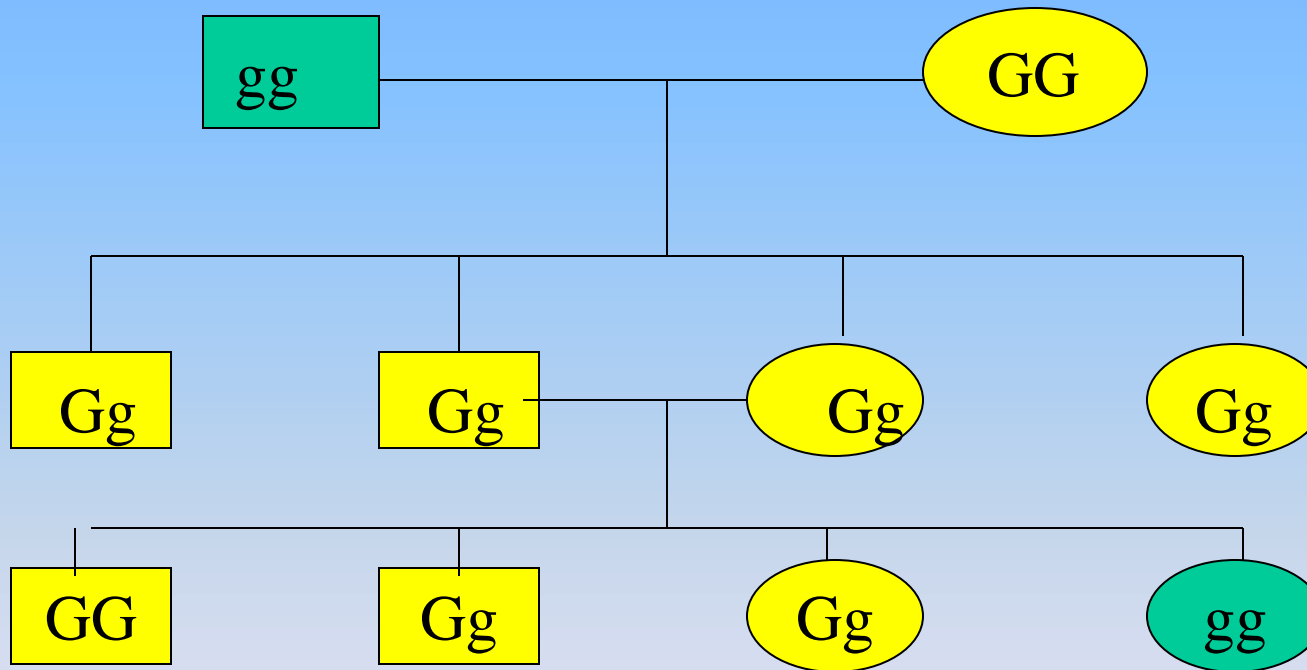
25% omozigote dominante GG; 25% omozigote recessivo gg
50% eterozigote Gg



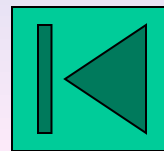
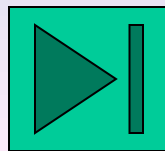
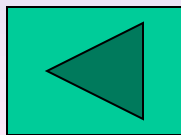
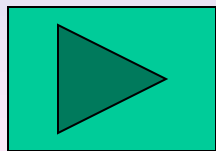
Incrociando individui omozigotici per un carattere, nella prima generazione tutti gli individui presentano lo stesso fenotipo: nella seconda generazione appare fenotipo dominante e fenotipo recessivo

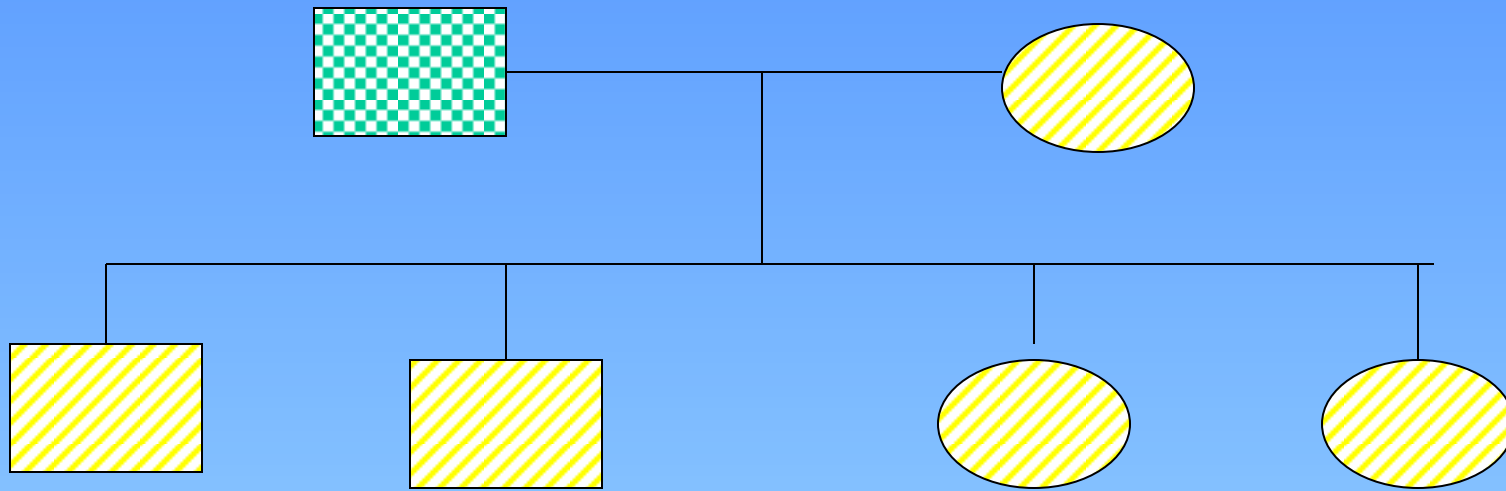


Incrociando individui omozigotici per un carattere, nella prima generazione tutti gli individui presentano lo stesso fenotipo: nella seconda generazione appare fenotipo dominante e fenotipo recessivo

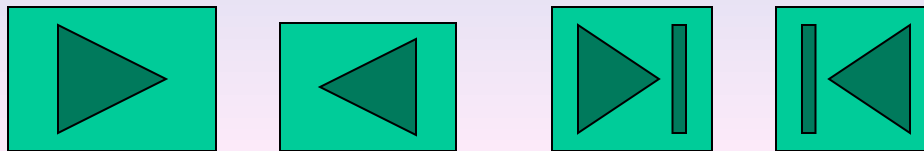


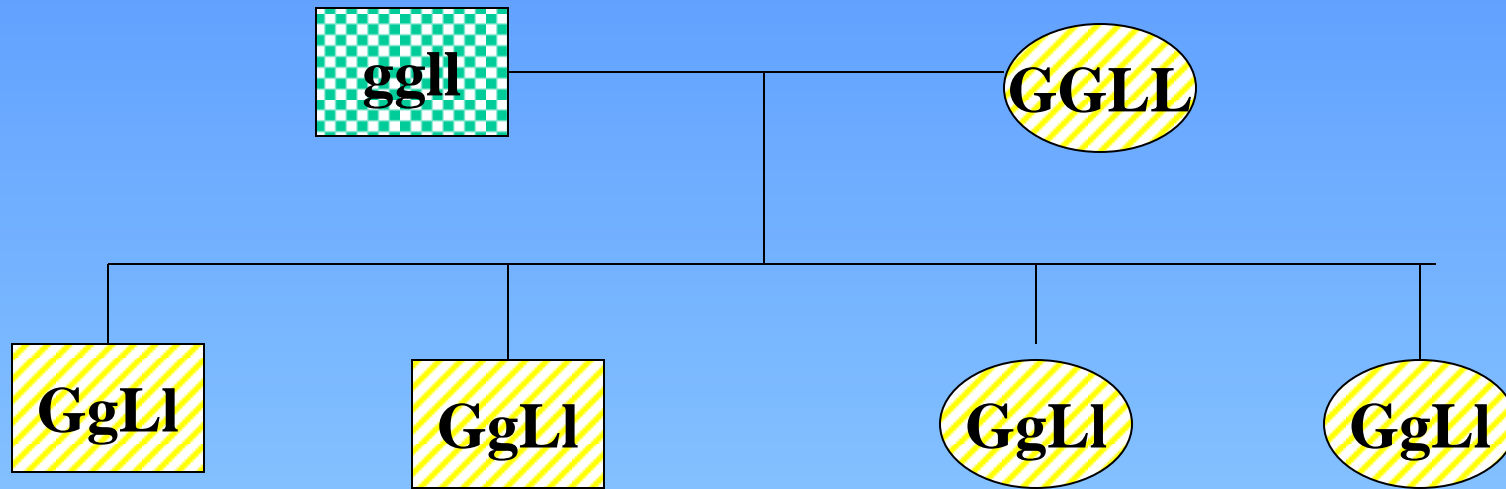
Incrociando due individui omozigotici per due diversi caratteri si ottengono nella prima generazione filiale 100% di individui tutti dominanti per entrambi i caratteri: nella seconda generazione ottenuta incrociando individui della prima generazione si ottengono 16 combinazioni con comparsa di genotipi e fenotipi diversi da quelli originari



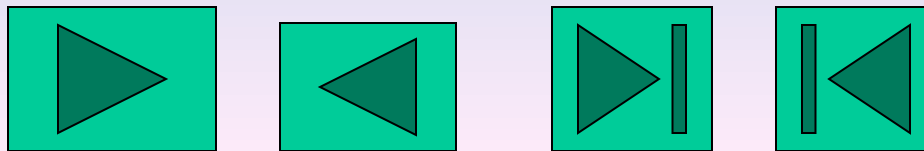


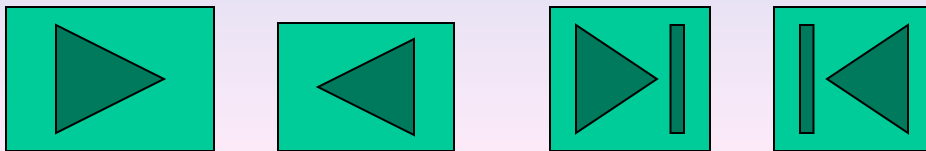
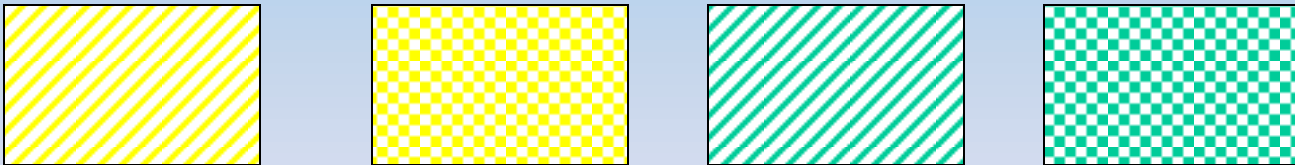
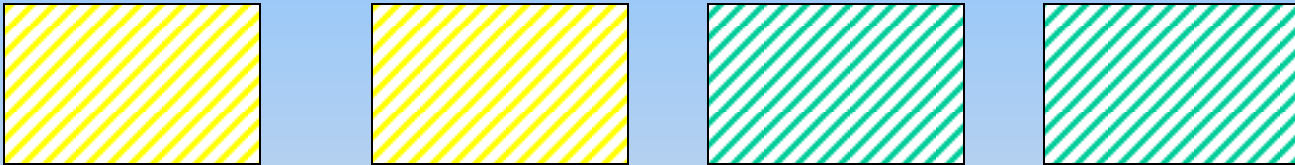
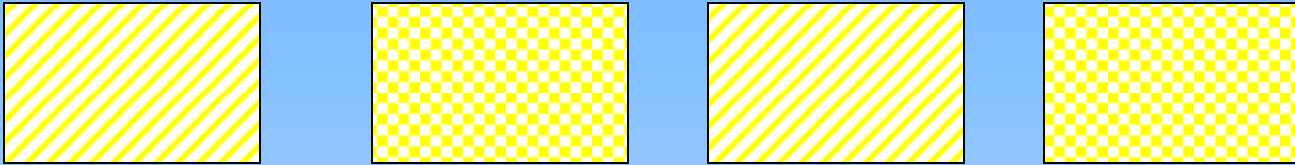
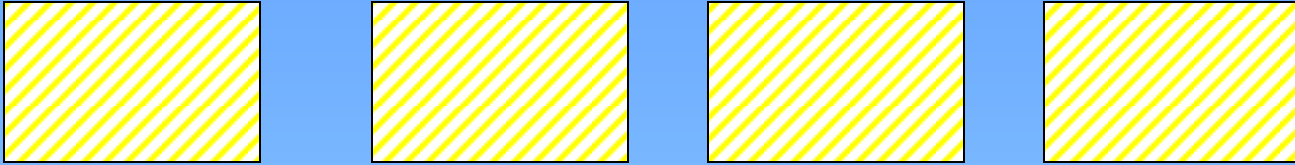
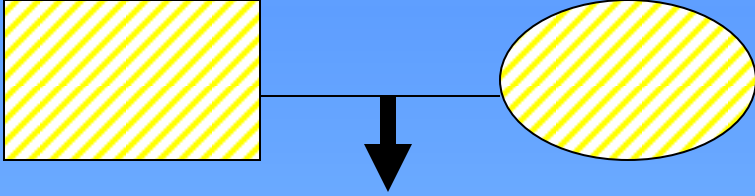
**100% fenotipo giallo dominante e liscio dominante
su verde e rugoso recessivi**

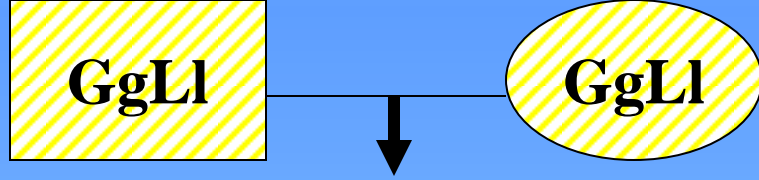




**100% fenotipo giallo G dominante e liscio L dominante
su verde g rugoso l recessivi**







GGLL	GGLl	GgLL	GgLl
GGLl	GGLl	GgLl	Ggll
GgLL	GgLl	ggLL	ggLl
GgLl	Ggll	ggLl	ggll



fenotipo GG Gg

giallo 75%

fenotipo gg

verde 25%

fenotipo LL Ll

liscio 75%

fenotipo ll

rugoso 25%

fenotipi nuovi

Gxll

giallo **rugoso**

ggLx

verde **liscio**

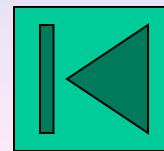
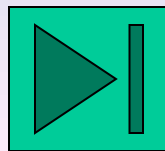
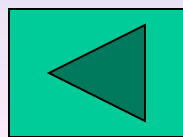
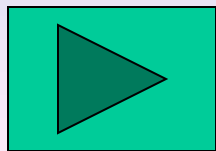
fenotipi originari

GGLL

giallo **liscio**

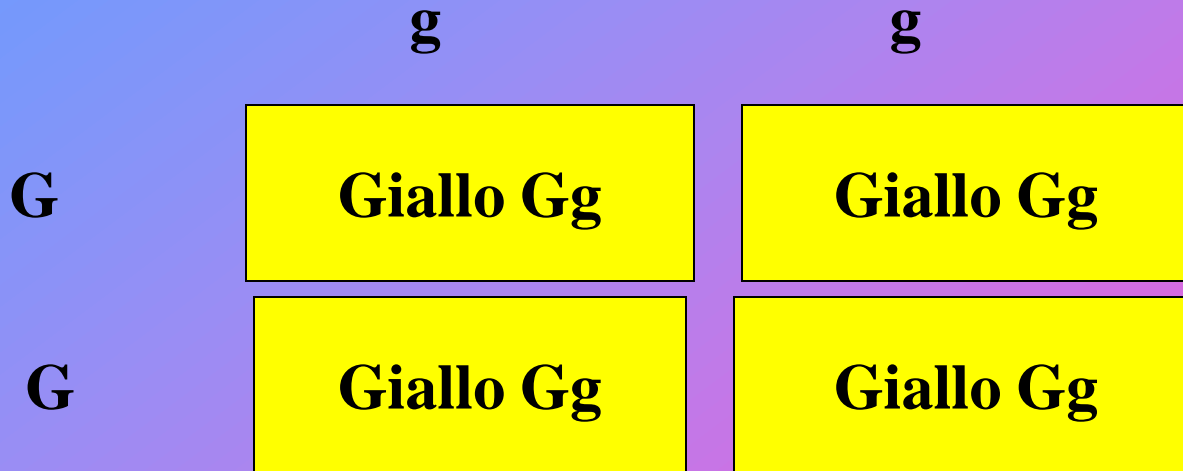
ggll

verde **rugoso**

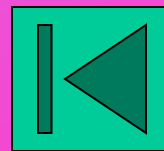
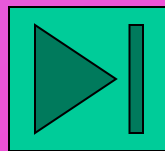
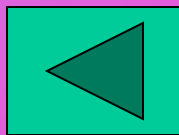
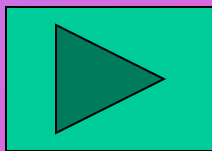


Giallo GG

Verde gg



Prima legge di Mendel
filiale prima tutti eterozigoti Gg
giallo dominante su verde



Giallo Gg

Giallo Gg

G

g

G

Giallo GG

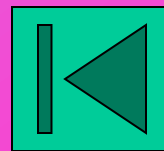
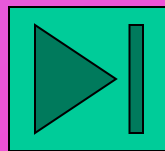
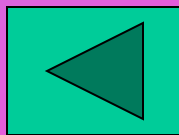
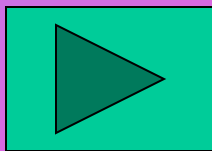
Giallo Gg

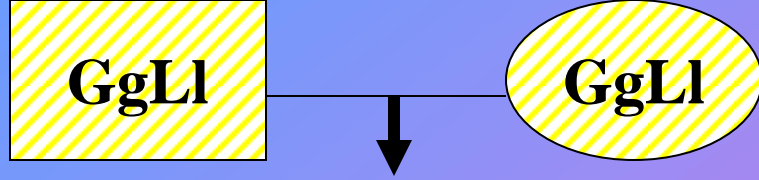
gg

Giallo Gg

Verde gg

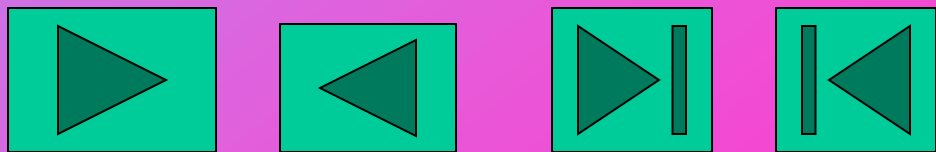
Seconda legge di Mendel
filiale seconda 50%eterozigoti Gg
25% omozigote GG 25% omozigote gg



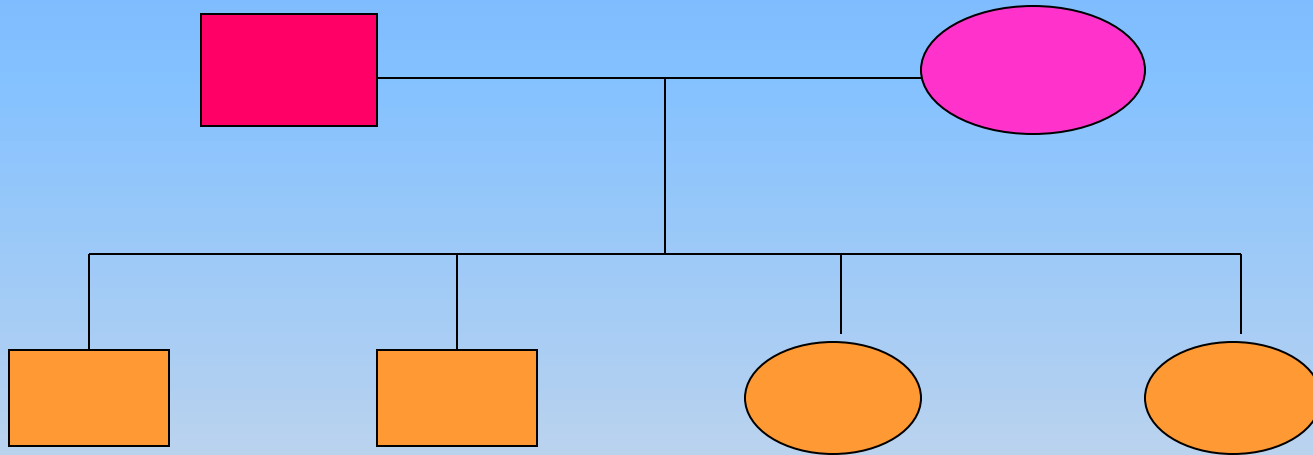


GGLL	GGLl	GgLL	GgLl
GGLl	GGLl	GgLl	Ggll
GgLL	GgLl	ggLL	ggLl
GgLl	Ggll	ggLl	ggll

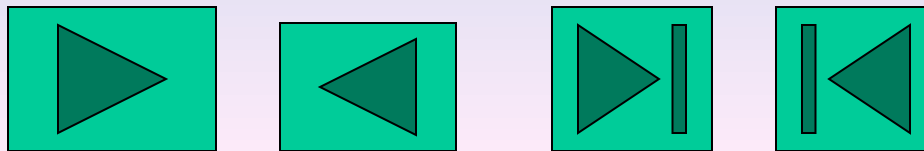
Terza legge di Mendel



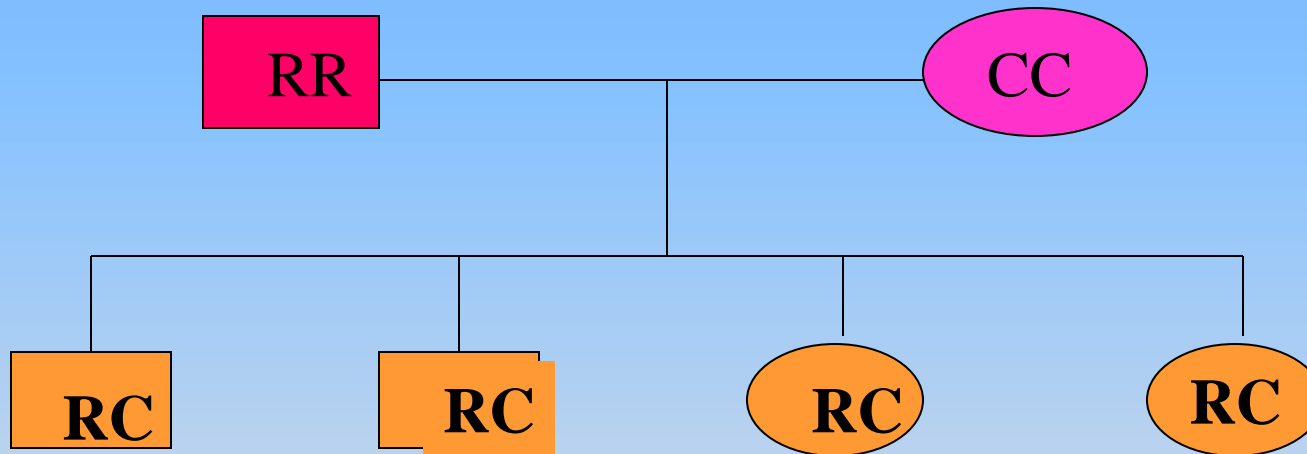
**Incrociando due individui omozigotici per un carattere,
i discendenti della prima generazione filiale presentano
tutti lo stesso fenotipo**



100% eterozigotici fenotipo uguale

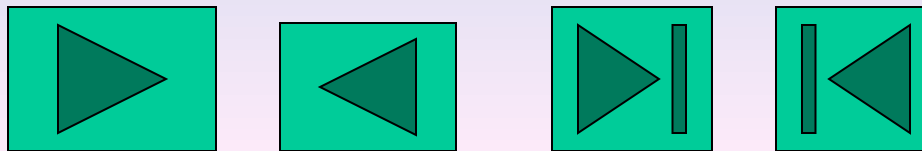


Gli alleli RR-CC presenti in coppia nei genitori, si separano nei gameti: con la fecondazione ogni individuo riceve da ogni genitore un solo allele della copia originale

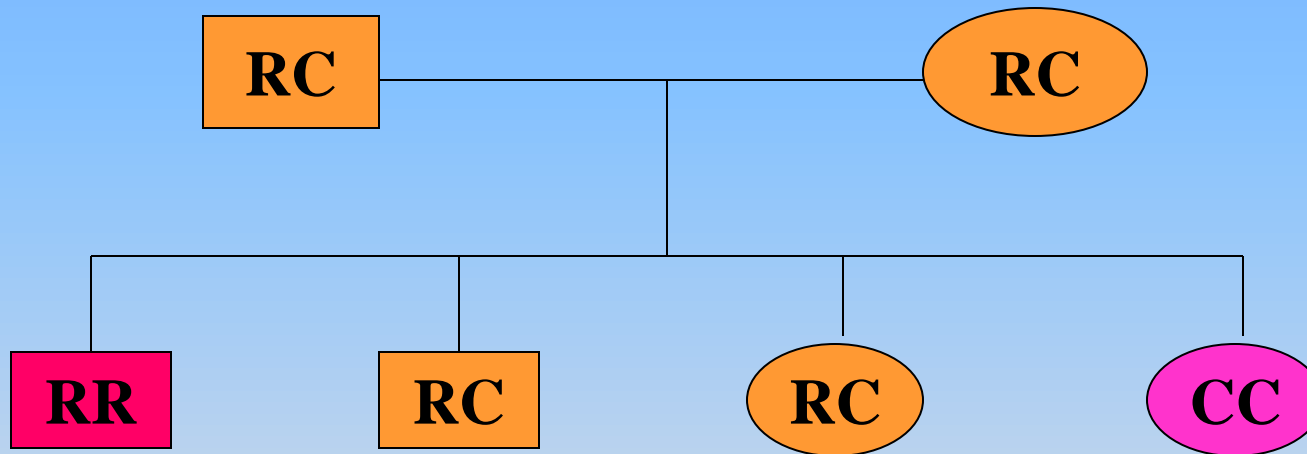


100% fenotipo intermedio marrone

100% eterozigoti RC

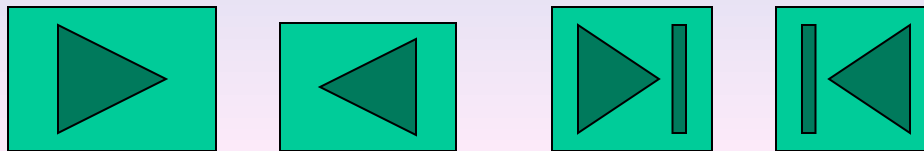


Incrociando due individui eterozigotici per un carattere, i discendenti della seconda generazione filiale presentano fenotipo 25% rosso 25% lilla e fenotipo intermedio 50%

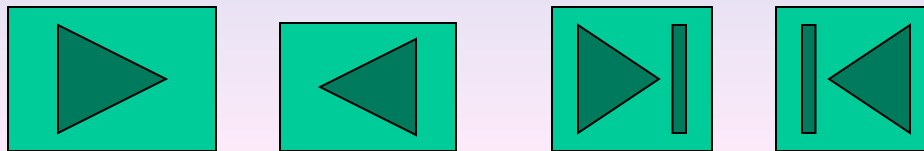
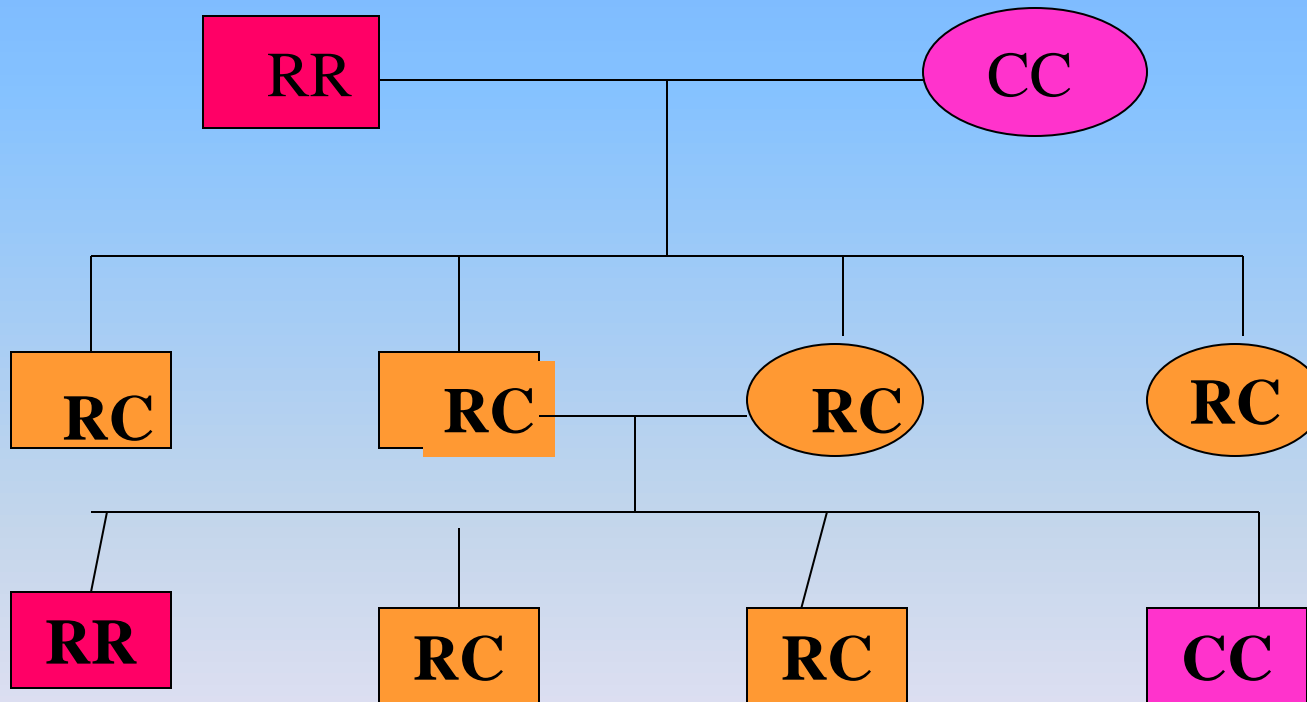


25 % fenotipo rosso e 25 % fenotipo lilla

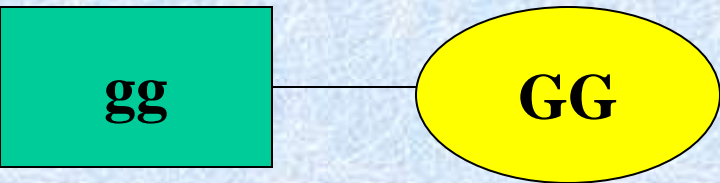
50% fenotipo intermedio



Legge della uniformità della prima generazione con alleli codominanti



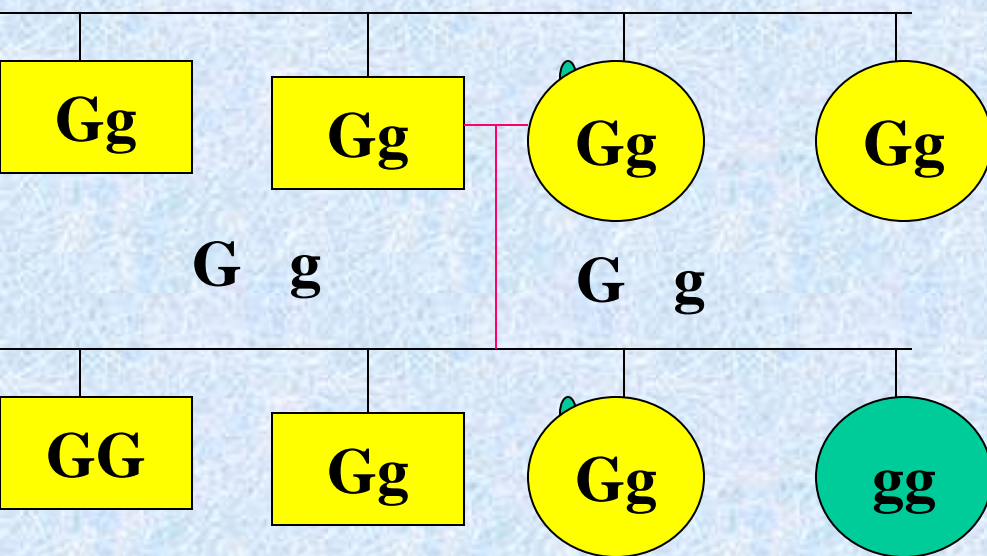
Prima,seconda, legge di Mendel



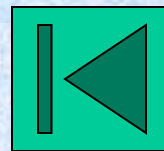
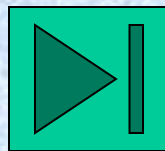
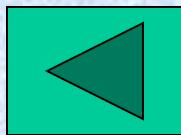
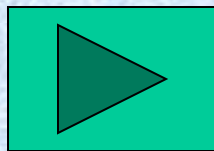
I genitori possiedono per ogni carattere due fattori

gg gg G G

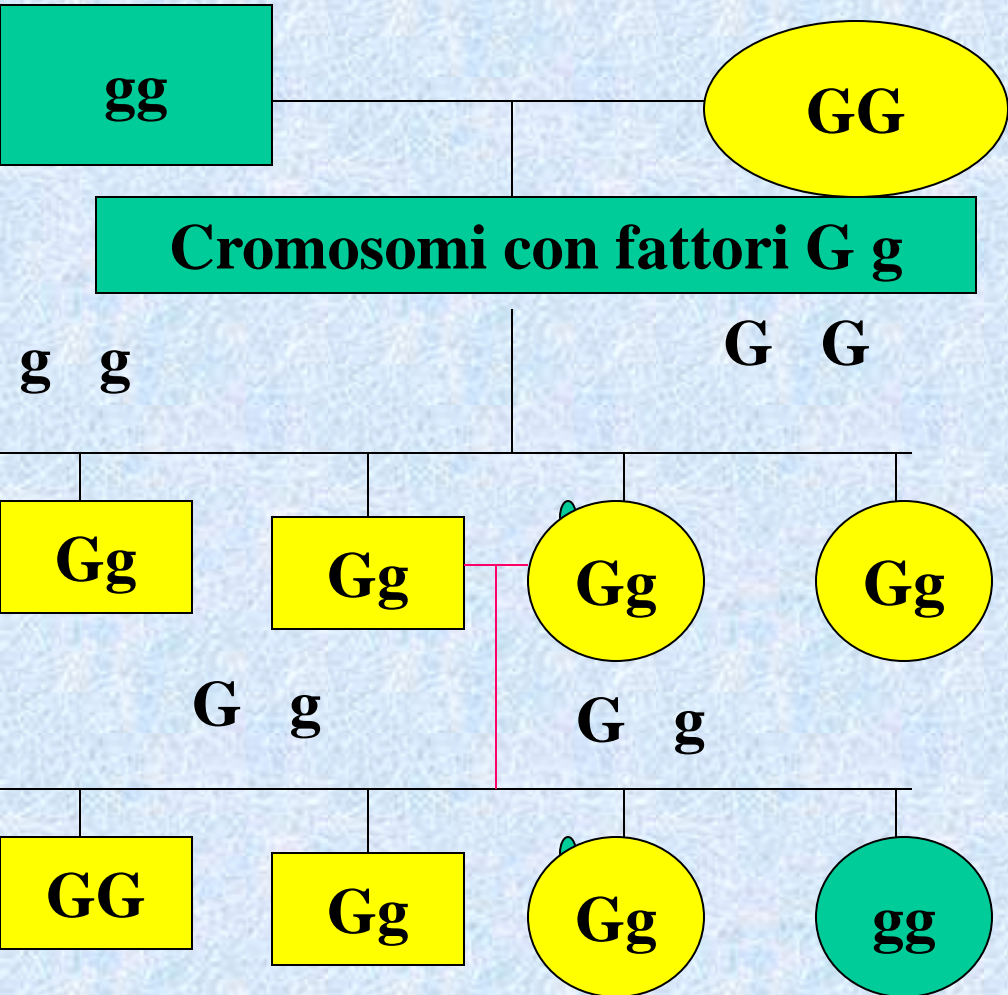
Nei gameti si trova solo uno dei due fattori: purezza dei gameti



Nella fecondazione i fattori si riuniscono in coppia originando le combinazioni osservate in natura: **con quale meccanismo avviene tale distribuzione?**

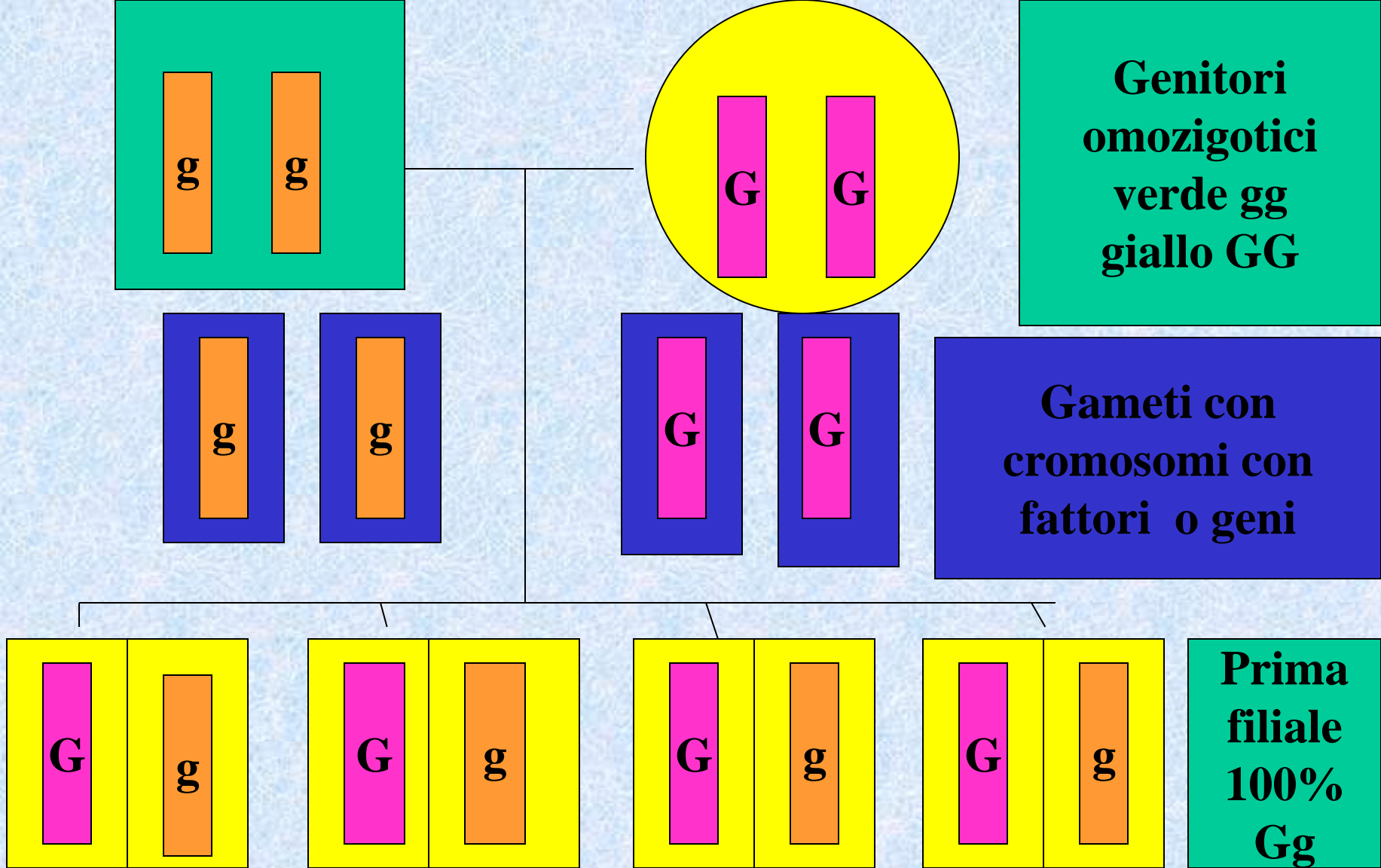


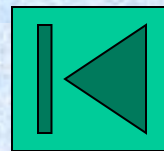
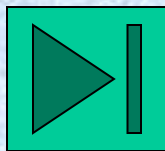
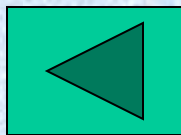
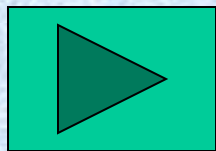
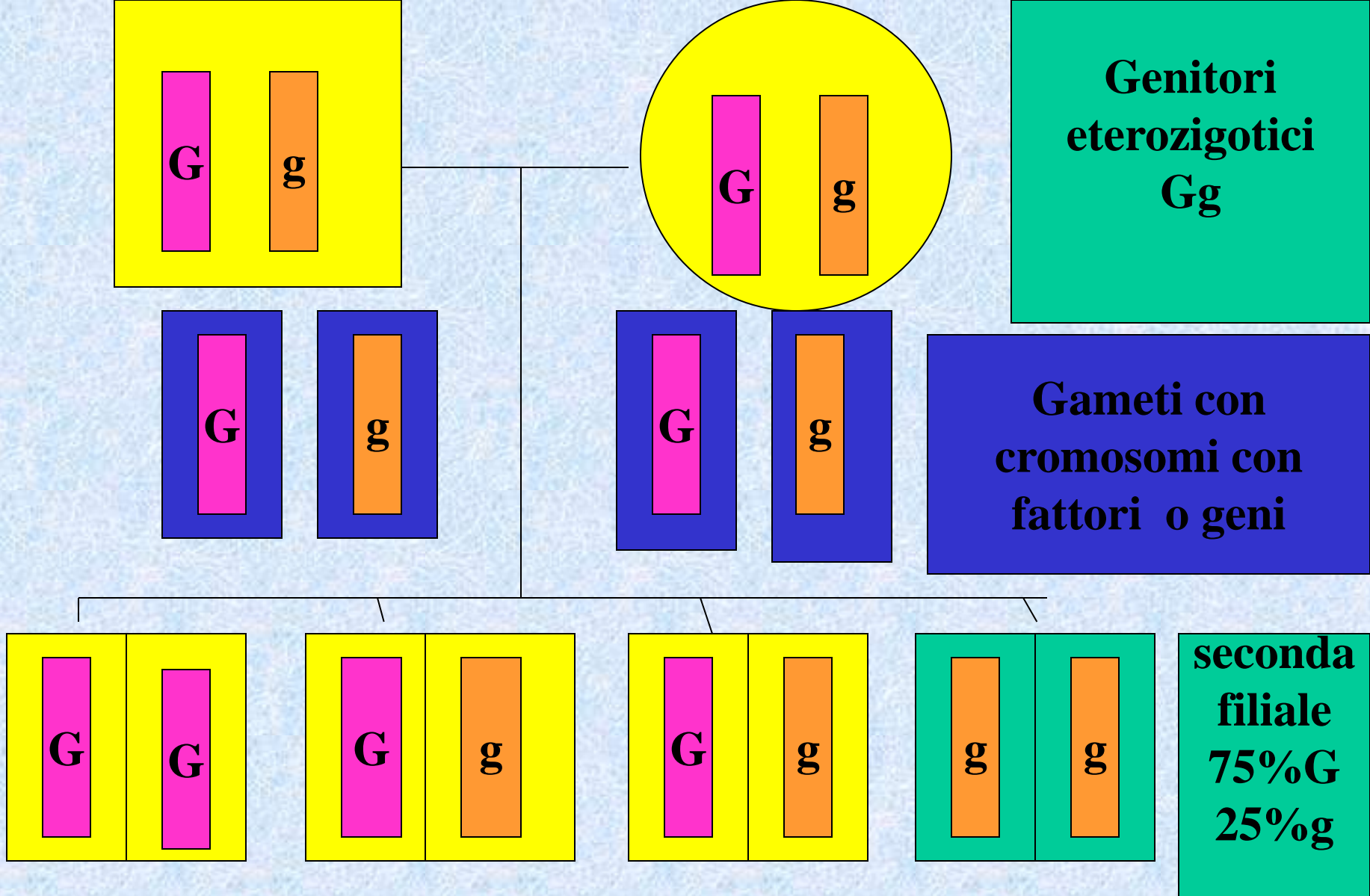
Interpretazione cromosomica: se i fattori mendeliani sono situati a coppie su cromosomi omologhi, seguono la distribuzione dei cromosomi durante la meiosi:



Durante la meiosi con la quale hanno origine i gameti, si osserva che ogni coppia di cromosomi omologhi si separa in gameti distinti e quindi anche i fattori (geni) presenti nelle coppie seguono la stessa regola di distribuzione che giustifica la frequenza osservata sperimentalmente







Terza legge di Mendel e indipendenza dei caratteri tipi di gameti diversi aumentano con aumentare di numero di caratteri considerati

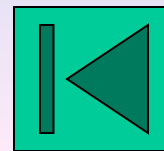
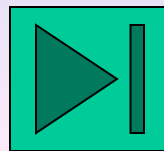
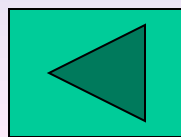
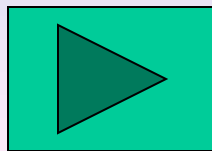
AABbCc

ABC.....ABc.....AbC...Abc

AaBbCc

**ABC...ABc...AbC...Abc
aBC...aBc...abC...abc**

**Con tre caratteri otteniamo le possibili combinazioni
nei gameti maschili e femminili con 32 possibili
incroci negli zigoti**



Fine presentazione leggi di Mendel

