

( )

\*

( / / : // : )

(2n=2x=14; EbEb) (2n=6x=42; AABBEbEb) (2n=4x=28; AABB)

F1 (AABBDD; 2n=6x=42) F1 F2

D Eb B A I Eb

%

.(Colmer et al., 2005, 2006)

.(Anonymous, 2006)

- 
1. *Triticum* spp.
  2. CIMMYT (Centro Internacional de Mejoramiento de Maiz y Trigo, Int.)

D

.(Flowers, 2004)

E<sup>b</sup>

.(Colmer et al., 2005, 2006)

.(Hassani, 1998)

(Gorham et al.,

.1985; Colmer et al., 2005)

n=

(2n=2x=14; E<sup>b</sup>E<sup>b</sup>)

(AABBE<sup>b</sup>E<sup>b</sup>)

.(Gorham et al., 1985)

(AABB)

(E<sup>b</sup>E<sup>b</sup>)

F<sub>2</sub>

JIC )

(*Triticum* spp × *Thinopyrum* spp.)

.(King et al., 1997; Jauhar & Peterson, 2001)

( b )

Az/b, St/b\*Cr/b.F<sub>5</sub>, Ca/b\*Cr/b.F<sub>6</sub>, :

(AABBDDE<sup>b</sup>E<sup>b</sup> AABBE<sup>b</sup>E<sup>b</sup>)

( a )

DNA

.(Hassani, 1998; Hassani et al., 2000)

F<sub>2</sub>

Az/b

F<sub>2</sub>

(Az/b )

- 
1. Tall wheatgrass (*Thinopyrum* spp.)
  2. *Thinopyrum bessarabicum* *Elytrigia bessarabica*  
*Agropyron bessarabicum* (JJ EbEb)
  3. *Elytrigia elongata* *Agropyron elongatum*  
*Lophopyrum elongatum* (EjEj EE JeJe)

(King et al., 1997)

$$\frac{(x + y)^2 - (x - y)^2}{4xy} = \frac{(x + y)^2 - (x - y)^2}{4xy}$$

F<sub>2</sub>  
F<sub>2</sub>  
F<sub>2</sub>  
( )

F<sub>2</sub>  
F<sub>2</sub>  
F<sub>2</sub>  
( )

(Singh, 2003; Karimzadeh et al., 2004; Feulgen & Rossenbeck, 1924)

(Az/b) F<sub>2</sub> F<sub>2</sub>  
( b )  
F<sub>2</sub>  
F<sub>2</sub> ( )  
( )  
F<sub>2</sub>  
( )

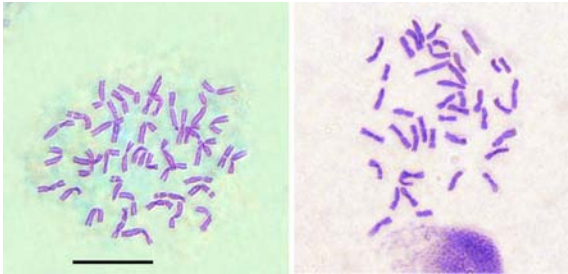
(Conger & Fairchild, 1953)

DP12  
BX50  
F<sub>2</sub>  
:  
%  
F<sub>2</sub>  
F<sub>2</sub>  
I  
r

- 
4. Pairing frequency
  5. Ring bivalents
  6. Rod bivalents
  7. Trivalents
  8. Quadrivalents

- 
1. Entellan
  2. Arm association
  3. Pollen Mother Cell (PMC)

E<sup>b</sup>



( )

( )



(c)

(b)

(a)

(Brasileiro-Vidal et al., 2005)

F<sub>2</sub> D E<sup>b</sup>

( )

*Ph1*

(Sears, 1976; Jauhar &

Chibbar, 1999; Jauhar et al., 2004)

(Jauhar, 1991)

F<sub>2</sub>

(AABB) B A  
(E<sup>b</sup>E<sup>b</sup>)

*Ph1*

(Jauhar, 2006)

DNA

F<sub>2</sub>

( )

I

(f e d )

( )

(g ) I

D E<sup>b</sup>

:

( )

F<sub>2</sub>

( )

(Silkova et al., 2006)

F<sub>1</sub>

SSR

C

E<sup>b</sup>

E<sup>b</sup> D

B A

F<sub>2</sub>

E<sup>b</sup> D B A

E<sup>b</sup> D

(Az/b )

I

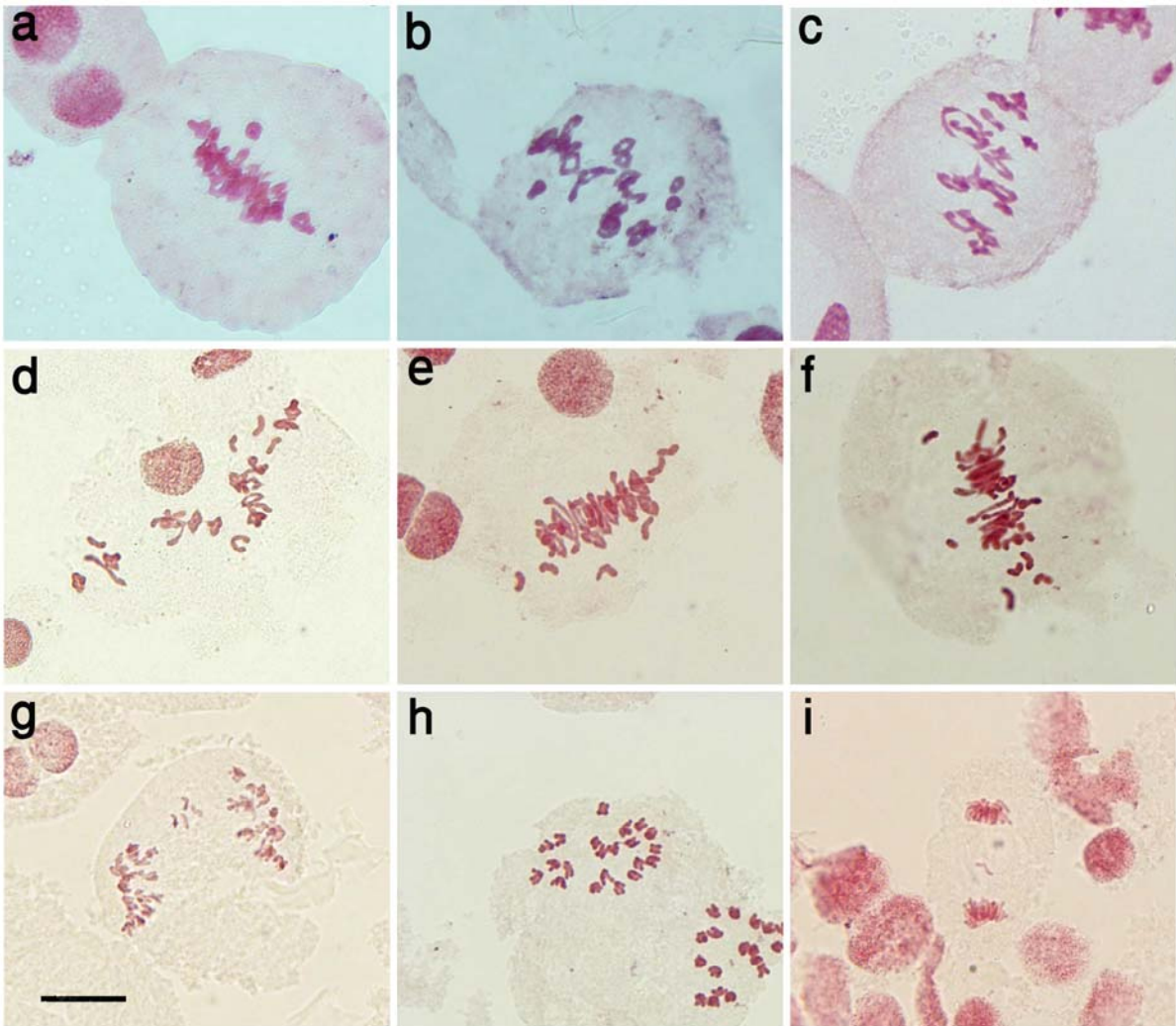
		I				n	F <sub>2</sub> (Az/b×Navid.F <sub>2</sub> )
/	/						
/	/						
/	/						
/	/						
/	/						

I

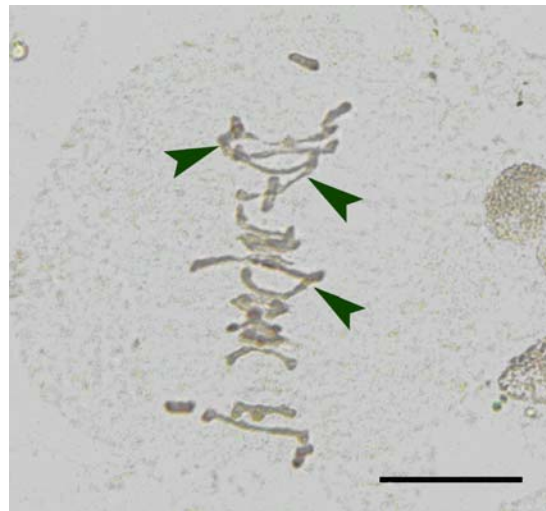
		I				n	F <sub>2</sub> (Az/b×Navid.F <sub>2</sub> )
/	/	( )	( )	( )	( ) <sup>ψ</sup>		
/	/	( )	( )	( )	( )		
/	/		( )	( )	( )		
/	/	( )	( )	( )	( )		
/	/		( )	( )	( )		
		/ **	/ **	/ **		df =	MS
		/	/	/		df =	MS

\*\*

ψ



I (a)  
 I (b)  
 I (c)  
 I (d)  
 I (e)  
 I (f)  
 I (g)  
 I (h)  
 II (i)



I

Az/b

)

.(

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