

By A. Monteagudo and E. Sánchez-Monte, I.N.I.A., Madrid, and J. R. Lacadena, C.S.I.C., Zaragoza. Pollen-Restoring Ability of Some Wheats.

The fertility of the  $F_1$  between male-sterile wheats and supposed restorers is given below. The data correspond to 1966 and two localities: M = Madrid and Z = Zaragoza. The environment of Zaragoza seems to be more favorable for pollen-restoration than that of Madrid.

Male parent	Female parent		% floral fertility of $F_1$			
	Cytoplasm	Variety	Locality	Min.	Max.	Av.
Escanda de Somiedo ( <u>T. spelta</u> )	Ae. ovata	Livers	M	0	0	0
R-21, <u>T. dicoccum</u>	"	Khapli	M	0	0	0
R-61 (1)	"	Norin 26	M	18.4	58.0	39.6
3965A (2)	T.timopheevi	Línea A	M	0	0	0
Sando 428/2873 (3)	Ae. ovata	Norin 26	M	0	0	0
" " "	"	Livers	M	0	0	0
R-164 (1)	"	Norin 26	M	0	0	0
" "	"	"	Z	0	20.0	4.3
" "	Ae. caudata	Tascosa	M	0	0	0
R-165 (1)	Ae. ovata	Norin 26	M	0	0	0
" "	Ae. caudata	Tascosa	M	0	0	0
" "	"	"	Z	0	12.5	2.7
R-166 (1)	Ae. ovata	Norin 26	M	0	0	0
R-167 (1)	"	Tascosa	M	0	0	0
R-168 (1)	"	Norin 26	M	0	0	0
R-169 (3)	"	Livers	M	0	5.1	1.3
R-170 (3)	"	Norin 26	M	0	0	0
" "	"	"	Z	0	35.0	8.4
R-171 (3)	"	"	M	0	0	0
R-172 (3)	"	"	M	0	2.0	0.5
R-173 (3)	"	"	M	0	0	0
" "	"	Livers	M	0	7.5	1.6
Lote 2	T.timopheevi	Línea A	M	0	50.0	19.1
P-168 (4)	Ae. caudata	Tascosa	M	0	0	0
WG-571017, <u>T. dicoc-</u> <u>coides</u>	Ae. ovata	Khapli	M	0	0	0
K-6317 (6)	"	Norin 26	M	0	0	0
" "	"	"	Z	0	19.4	5.1

## Pollen-Restoring Ability Contd.

Male parent	Female parent		% floral fertility of F <sub>1</sub>			
	Cytoplasm	Variety	Locality	Min.	Max.	Av.
CI-13523 (3)	<i>Ae. ovata</i>	Livers	M	0	0	0
CI-13524 (3)	"	Norin 26	M	0	0	0
R-224 (6)	"	Livers	M	0	0	0
" "	"	"	Z	0	28.1	6.7
59 C-335 (5)	"	Norin 26	M	0	0	0
" " "	"	"	Z	0	27.3	10.3
P-168-4 (4)	<i>Ae. caudata</i>	Tascosa	M	0	1.2	0.2
R-279, <i>T. carthlicum</i>	<i>Ae. ovata</i>	Khapli	M	0	0	0
San Marino (1)	"	Norin 26	M	0	0	0

- (1) Derived from crosses *T. aestivum* x *Ae. ovata*  
(2) " " " " x *T. timopheevi*  
(3) " " " " x *Agropyron sp.*  
(4) " " " " x *Ae. caudata*  
(5) " " " " x *Ae. speltoides*  
(6) " " " Transfer

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Hybrid wheat. Tests on Allogamy Tendency.

Receptivity of alien pollen by cytoplasmic male-sterile plants is very important in the production of commercial hybrid seed. The percentage of out-crossing obtained in plants emasculated by hand may be used as an index for the receptivity.

In order to determine which varieties showed the highest ability to be cross-pollinated, tests were begun in the 1964-65 season and pursued in 1965-66. To leave the plants with the same morphological characteristics they would have had in the male-sterile condition, the ears were emasculated by hand without cutting awns or glumes; in this manner the external floral covers remained intact (Lacadena, 1966). The results obtained are listed below. Looking at the table, one can see the differences between varieties.