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WHEAT BREEDING PROGRAMS FURTHER COMPLICATED BY INCREASE IN PREVALENCE OF RACES 49 and 139.

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In most wheat breeding prog ams in North America where stem rust is a problem, the major emphasis during the past three years has been to develop varieties resistant to race 15B, and simultaneously retain resistance to the other common races.

Race 49 and 139 began to increase in prevalence in México during the summer of 1952. On the commercial varieties Kenya 324, Lerma, and to a lesser extent on Kentana, all of which are resistant to race 15B.

Subsequent greenhouse and field tests indicate that all of the Kenya wheats which have been shown to be resistant to race 15B, with the exception of Kenya 338A62M2 and Kenya 338A41A2, are susceptible to races 49 and 139. The latter Kenyas are resistant to race 15B, 49, and 139. Races 49 and 139 are currently (May 1953) second in prevalence to race 15B in central and northern Mexico. Since a large percentage of the acreage in these areas is planted to Lerma and Kentana, races 49 and 139 will probably soon become more prevalent than 15B.

Races 49 and 139 are similar from a breeding standpoint. Many commercial united States, Canadian, and Brazilian varieties are resistant to both. A strong linkage exists in most Kenya varieties between the factors for resistance to race 15B and susceptibility to races 49 and 139.

(1) Rockefeller Foundation.
Division VII Crop Breeding
20 Minutes
Slides

INVERNADERO Y LA REACCION EN EL CAMPO EN NORTE AMERICA Y LATINO AMERICA

vernadero		Reacción a las razas comunes en México			Reacción en el Campo					
Estado de Plántula	Estado Adulto				Minn.	Chap.	Hgo.	Brasil (3)	Chile	Perú
M é x i c o		Estado de Plántula			U. S. A.	Méx.	Méx.			
60-65° F		R-17	R-56	R-59	V-51	V-51	V-51	V-51	V-51	Perú
2=0 ; 2=4	R	0	0	0	T-R	0	0	0	0	0-50CS
1=4 ; 4=0;2++	-	0	0	0	T-5RS	0	0	0	0	0-50CS
0	AR	0	0	0	T-5R-MR	0	0	0	0	0-20CS
0;	-	0	0	0	5R	0	0			
0	AR	1=X 10=0	0	0;	T-R	0	0			
0	AR	0	0	0	T-30 RMR	0	0			
0;	AR	0	0;1	0	T-R	0	0	0	0	T-S
0	-	0	0	0	T-R	0	0			
0	-	0	0	0	T-R	0	0	0	0	0-20CS
1	AR	0	0	0	T-R	0	0	0	0	0
0	AR	0;	0	0	T-5R	0	0	0	0	0
0	-	0	0	0	0-5 RMR	0	0	0	0	0
0	AR	0	0	0	5-10 MR	0	0	0	0	0
0	1=S;8=AR	0	0	0	5 MR	0	0	0	0	0
0	AR	0	0	0	T-MR	0	0	0	0	0
0	AR	0	0	0	5-MR	0	0	0	0	0
0	-	0	0	0	10MR	0	0	0	0	0
0	-	0	0	0	5R	0	0	0	0	0-15CS
0;1	1=S;4=AR	-	-	-	5R	0	0	0	0	1CS
0	AR	0	0	0	T-RMR	0	0	0-50	0	0
0;	AR	0	0	0	5-MS-MR	0-R	0	0	FR	0
0	-	0	0	0	20S-MS	0	0			
1++	AR	0	0	0	T-5 R-MS	o-tr-R	0	0	0	0
1=1;3=3	R	2++	0	0	5MR	0	0			
3+ K/N/	-	0	0	0	30S	0	0	0	0	20MS
1=3++7=1++	AR	0	0	0	15-MR-MS	0	0	0	0	0
1++	S	2++3	0	2	50MS	30S	50S	25MR	40M	2CS
3=	S	1++2=	0	0	55S	70S	95S	65CS	TM	50CS
1+	S	4+	2++	-	-	95S	75S	80CS	50CS	75CS
0;1	AR	0	0	0	R-MS-T	T-R	0	0	0	0

del Departamento de Agricultura de los Estados Unidos de Norte América.
México, Brasil, Chile y Perú, datos no publicados todavía de los Dres. H. A. Rondenhiser,

Cruza y Selección		Reacción a la raza 15B en el in			
		Estado de Plántula			Estado Adulto
		Minnesota (1) U.S.A.		U.S.D.A.(Beltsville)	U.S.A.(2
		60 - 65°F	80 - 85°F	70 - 75°F	
Supremo x Kenya	II-746-5C-1C-1C-26C	8=X ; 2=0;1	3.4 +	6=0; 1 3=4	AR(4)
" "	" 746-5C-1C-1C-28C	0	4 cn	5=0; 1 2=4	AR
Kenya 2 x Candeal	CR-244-3C-1C-1C-1C-2C	10=0; 1=2+	3 cn	0;1	AR
" "	" 244-4C-1C-2C-2Y-2C	0	0;	0;1++	AR
" "	" 244-4C-1C-2C-2Y-1Y	0	8=1+; 1=3C	0;1++	AR
Candeal x Kenya	II-236-9L-3L-2L-2L	0	1++	0;1	AR
" "	" 237-3C-1C-1C-3C-3C-1C	0;	X+	2+	R
Kenya x Candeal	" 246-8C-2C-1C-1C-3C-1C	1++	0;4	X	-
Montana 48 Reselection	" 56-8C-17C-1C-8Y	0;	0;	0;	AR
" " "	" 56-8C-17C-1C-15C	0	0	0;1	AR
" " "	" 56-8C-17C-1C-37C	0	0	0;1	AR
" 51	" 56-8C-17C-1C-31C	0	0;	0;	AR
" 51-A	" 56-8C-17C-1C-54C	0	0;	0;	AR
" 51-B	" 56-8C-17C-1C-65C	0	0;	0;	AR
" 52A	" 56-8C-17C-2C-13C	8=0 ; 1=X	8=0 ; 1=4	0	AR
" 52	" 56-8C-17C-2C-17C	0	0;	0;	AR
" 52B	" 56-8C-17C-2C-26C	0	0;1++	0	AR
" 48 "	" 56-8C-17C-(3-5C)-14C	0;	0	0;	AR
(Montana-K)	CR1-" 460-1C-1C-1C-1C-22C	0	3C	0;	MR-MS
(Egypt x Timstein)	" 704-1Y-5Y-5C-2C-1C	8=0 ; 1=1++	0	0;1	AR
" "	" 704-1Y-5Y-3C-2C	0;	0;	0;	AR
(Kenya x Supremo)	" 710-7C-3C-2C-1C-2C-1C	6=0 ; 1=3C	0	0;	AR
(Newthatch x Marroquí)x (Montana x Kenya)	" 1103-11Y-3C-6C	0;	0;	0;	AR
(Kenya x Marroquí 2)x María Escobar	" 1443-3C-3C-1C	0;1	4	3-4	-
Derma 50(Mt3-K)	" 461-6L-4L-1L	0	4 cn	3-4	-
Montana 48	" 56-8C-17C-1C	8=0 ; 1=2	0;3 cn4+	6=0 ; 4=3	AR
Montana 2 x Supremo	" 290-1C-1C-3C-1C-1C	2	2,3 cn	-	-
Supremo		3++	3,4	3+	S
Montana		-	-	1+	S
Kenya HF324		C	6=1++;1=3,4	0;1	AR

1) Trabajos hechos en la Universidad de Minnesota por el Dr. E. C. Stackman y sus colaboradores.
2) Trabajos hechos en Beltsville, Md., por los Dres. H.A. Rondenidisor, C.V. Lowther y B.B. Bayles
3) Experimentos cooperativos entre los siguientes países: Canadá, Estados Unidos de Norte América C.V. Lowther y B.B. Bayles.
4) AR = Altamente Resistente.