4. Mapping studies of Rp_5.

A dominant gene for resistance to Puccinia sorghi, designated Rp_5, has shown 3.7% recombination with the Rp_1 locus in the short arm of chromosome 10 (Wilkinson, D. R. and A. L. Hooker, Phytopathology. In Press).

Below are tabulated the results of four testcrosses grown in the summer of 1967 for determining the linkage relations of Rp_5, oy, and bf_2:

$$\frac{Rp_5 \quad + \quad +}{+ \quad oy \quad bf_2} \quad X \quad + \quad oy \quad +$$

				Family 6	Family 7	Family 8	Family 9	Total
P	Rp	+	+	27	37	38	31	133
	+	oy	bf	35	37	37	29	138
1	Rp	oy	bf	8	17	15	9	49
	+	+	+	13	12	13	7	45
2	Rp	+	bf	3	10	10	1	24
	+	oy	+	2	8	7	6	23
1,2	Rp	oy	+	0	1	0	0	1
	+	+	bf	0	1	1	0	2
		Totals		88	123	121	83	415

Summary:

Rp_5 23.4 (97/415) oy 12.0 (50/415) bf_2

34.0 (141/415)

On the basis of these data, Rp_1 - oy recombination values of either about 20% or about 27% would be expected, depending upon the sequence of Rp_5 and Rp_1. Both values are somewhat higher than suggested by current maps.

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