

Table 2. Transmission frequencies and recombination in T/N pistillate parents having approximately normal backcross ratios.

	<u>Σ</u>	<u>% Wx</u> (T marker)	<u>% Sh-Wx</u> Recombination	<u>Phenotype</u> of plant
25212	183	47.0	15.8	C Sh Wx gl Y
	125	56.0	25.6	C Sh Wx Gl Y
	130	48.5	3.1	C Sh Wx Gl Y
25225	158	50.6	21.5	C Sh Wx Gl Y
	158	45.6	13.9	C Sh Wx Gl Y
	165	49.1	22.4	C Sh Wx gl Y
25228	209	55.5	25.8	c Sh Wx Gl Y
	184	50.0	22.3	c Sh Wx Gl Y
25232	127	53.5	18.9	C Sh Wx Gl Y
	156	53.8	3.2	C Sh Wx Gl Y
25235	108	41.7	26.0	c Sh Wx Gl Y
24435	190	52.6	22.1	C Sh Wx Gl Y
24450	164	44.5	20.1	C Sh Wx gl Y

A random sample of 12 noncrossover plants from the aberrant ratio class gave a total of 1832 seeds, a Wx frequency of 33.6% and Sh-Wx recombination of 3.8%.

The occurrence of plants with normal backcross ratios in the female is often associated with a crossover in one arm of the T. This may lead to a closer homology of the arms in question, although no striking difference in homology has been observed between the T and N chromosomes. The result, at any rate, is a higher crossing over in 9S, leading to a lower trivalent frequency (not yet confirmed cytologically) and to normal recovery of T and N chromosomes.

Ellen Dempsey

4. Du-Oy linkage.

Some preliminary data from a selfed ear of Du oy/du Oy constitution gave the following classes:

<u>Du Oy</u>	<u>Du oy</u>	<u>du Oy</u>	<u>du oy</u>	<u>Σ</u>
176	75	62	2	315

This indicates a value of 18-19% recombination as based on Immer's Tables. Backcross data should be available next year.

Ellen Dempsey

5. A possible convertor at the Pl locus.

In a family of 36 dark purple plants, presumed to be homozygous B Pl, a single lighter-pigmented plant appeared. This exceptional plant was self-pollinated and also crossed as male parent with dark purple individuals from the same line and from a second, not closely related line. All the progeny (350) from these crosses were light-colored. Nor was there any segregation of dark purple color in the next generation when the F_1 's were selfed or backcrossed to dark purple.

This behavior parallels that described for conversion at the B locus. Except for anther color, however, these plants resemble sun reds in phenotype. Linkage tests are being made to determine whether the Pl locus or B are involved in this case.

Crosses with other lines and other genotypes have produced interesting results. The progeny from a cross with a line homozygous B Pl obtained from the Co-op were all dark purple. A line homozygous b pl also gave dark purple F_1 's whereas the progeny from a cross with b Pl were all sun red. Two lines of sun red plants (B pl) gave opposite results; one yielded only dark purple plants whereas the other produced only sun reds.

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