

GENETIC RECOMBINATION IN THE W2 LOCUS  
(SPORE COLOUR MUTANT) OF ASCOBOLUS IMMERSUS

K.Theivendirarajah\* and B.C. Lamb\*\*

\*Dept. of Botany, University of Jaffna  
Dept. of Pure and Applied Biology, Imperial College, London.

Five different alleles viz., W10, NGW5, W78, W2su<sup>+</sup> and W3C1 of the W2 locus were crossed pair-wise in repulsion and the frequency of wild type spored asci was determined. In most cases the 2:6 (wildtype:mutant) ascus arose by the conversion of one of the two mutant alleles to the wild type. Reciprocal recombination between the alleles was rare. The observed frequency of 2:6 asci in all heteroallelic crosses except that of W10 x W3C1 differed greatly from the expected frequency, based on the assumption that conversion at one allele is independent of the other. In the case of W10 x W3C1, the observed frequency of 2:6 was more or less equal to that of the expected. In other words except for the W10 x W3C1 cross, all other crosses seem to exhibit co-conversion, this being high for those crosses involving the closely linked alleles W10, W78 and NGW5. The tentative order of the mutants based on the frequency of wild type spored asci was W10, NGW5, W78, W2su<sup>+</sup> and W3C1 where W10 and W78 were at the two extremities. The frequency of total gene conversions was found to be the highest at W10 and decreased gradually along the above order suggesting that W10 could be at or close to the site of hybrid DNA initiation.