STUDIES on the inheritance of resistance to corn leaf rust, *Puccinia sorghi* Schw., have demonstrated that the resistance in Cuzco, GG208R, K148, B38, B49 and P.I.172332 is due to 6 distinguishable alleles (5). Since GG208R presumably has descended from the stock used by Rhoades and Rhoades (4) in their studies, it has been assumed that these alleles are at the *Rp* locus on the short arm of chromosome 10. An analysis of another source of resistance, (Oh45 × W92)—2—5—2, has indicated 2 or more genes condition resistance and none of these is allelic with the series on chromosome 10. For example, segregations in F2 and backcross progenies from resistant × susceptible crosses indicated that more than one gene pair was segregating. Also, F3 progenies have indicated that (Oh45 × W92)—2—5—2 has 2 or more genes conditioning resistance and that none of these is allelic to the genes at the *Rp* locus.

This paper reports results of studies conducted to confirm the chromosome location of the *Rp* locus and to determine the number and location of the genes conditioning resistance in (Oh45 × W92)—2—5—2.

MATERIALS AND METHODS

The method used to locate the genes conditioning rust resistance on chromosomes has been described by Anderson (1) as the gene-marked translocation technique in which a series of reciprocal translocations were used. Most of these stocks had a translocation between chromosome 9 with the endosperm marker *wx* and one other chromosome. Four stocks involved chromosome 4 and one other than chromosome 9; the *su* allele marked chromosome 4.

* Unpublished data.