THE genetic constitution of the host provides the essential basis for its resistance or susceptibility to a pathogen. A variety of the host which has a desirable combination of genes for resistance is, therefore, the most practical and economical method of controlling any disease. Wheat stem rust, *Puccinia graminis tritici* Eriks. and Henn., needs no introduction and is one of the most important diseases of wheat. This organism has been studied in great detail and plant breeders have succeeded in evolving varieties of the host which are resistant to stem rust. Despite this success, the problem of control of this rust has not been solved. This may be due to three factors. Firstly, the inheritance of resistance is not simple. In most cases it is multigenic and linkage relationships between genes make it complex. Secondly, the organism *Puccinia graminis tritici* Eriks. and Henn. follows the normal laws of evolution and keeps producing new virulent strains through mutation and hybridization, and thirdly, lack of sufficient knowledge of host-pathogen relationship. According to Flor's (2) gene for gene theory, a virulent gene in the pathogen is matched by a gene for resistance in the host. Therefore, resistance results only when there is a gene for resistance in the host and a gene for avirulence in the pathogen. In view of these facts it is necessary that a comprehensive genetical knowledge of the inheritance in the host be acquired, and search for new sources of resistance should continually be undertaken in order to combat new virulent strains of rust.

Emmer wheats (*Triticum dicoccum* Sch.) constitute a most valuable source of resistance to stem rust, and have contributed towards the improvement of bread wheats. Khapstein derives resistance from Khapli (11) and Hope and H-44-24 have received resistance from Yaroslav emmer (4). For successful utilization of any source of resistance in a wheat improvement program it is impera-