Genetic Study Of Resistance To Wheat Streak Mosaic Virus In Winter Wheat Line CO960293-2

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Wheat streak mosaic (WSM) is an economically important disease in wheat (Triticum aestivum L.) in the Great Plains of North America. This disease is caused by wheat streak mosaic virus (WSMV), which is vectored by the wheat curl mite (Acaena loushchella Keller). The winter wheat line CO960293-2 is resistant to WSMV, but inheritance of the resistance has not been determined. In this study, a population consisting of 168 F2,3 families was developed from the cross CO960283-2 X TAM 111 for determination of inheritance of the resistance. Segregation among F2,3 families of host reactions to infection of WSMV isolate Sidney-81 indicated that the resistance in CO960293-2 is conferred by a single dominant gene. Gene introgression toward the susceptibility occurred in the population suggesting a minor gene in the moderately susceptible parent TAM 111. SSR markers are being used for molecular mapping of the gene. Due to a single dominant gene inheritance, the resistance in CO960293-2 can be easily transferred to adapted cultivars to protect wheat from WSM damage.