Genetics of resistance in tropical maize to corn leaf aphids. (C01-so202130-Oral)

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Abstract:

Corn leaf aphids (Rhopalosiphum maidis) can cause occasional yield loss of maize (Zea mays L.) in Hawaii. We have observed genetic resistance to the aphid species. An improved artificial inoculation technique with hairpin clip-cages was devised. A cross was made between resistant inbred, Hi38-71 and susceptible inbred, Hi27. A total of 177 plants from the two parents, F1, F2 and backcrosses were artificially inoculated with three wingless aphids per cage. Aphid population increase was classified on a ten-point scale based on aphid density inside the clip-cage. Average ratings of resistant and susceptible parents were 1.8 and 6.6, respectively. The average F1 rating (6.1) was not significantly different from that of the susceptible parent. The average F2 rating was 4.9, which was lower than the F1 value. Resistance to corn leaf aphids from Hi38-71 appeared to be monogenic and recessive.

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