# QTLs Affecting White Food-Grade Corn Quality. (C07lee153855-Poster)

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### Abstract:

White food grade corn is primarily used for the production of Mexican snack food products. Certain kernel characteristics, such as endosperm hardness, colour, and test weight, are desirable for this type of processing. To gain an understanding of the genetics underlying these traits, QTLs for six quality traits were identified: resistance to KRS, test weight, percentage of thins, colour, thousand kernel weight, and endosperm hardness, using a F2 population from the cross SD79 x SD80. In the summer of 2001, 241 F2:3 families were grown in two southwestern Ontario locations. The families were genotyped at 34 polymorphic SSR loci. One major effect QTL for KRS was identified located in bin 6.02 and two test weight QTLs were identified in bins 1.03 and 3.04-3.05. Four unlinked QTLs were identified that affected percentage of thins, with both parents appearing to possess favorable alleles affecting this trait. Multiple kernel colour QTLs were identified corresponding to the tri-stimulus parameters, luminance, red/green chrominance, and yellow/blue chrominance of the HunterLab LabScan system. Results of QTL localization for thousand kernel weight and hardness will also be presented.

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