

Population Genetics of *Puccinia coronata f. sp. avenae* in the U.S.

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Puccinia coronata, oat crown rust, is a serious disease of cultivated oat. In order to look at the diversity and population structure of this fungus we have developed 41 dinucleotide microsatellite markers. A survey of 75 individuals, with nine of these being foreign isolates, has shown these loci to be highly variable with an allelic diversity ranging from 2 to 22. Observed heterozygosity ranged from 0.014 to 0.973 and expected heterozygosity from 0.166 to 0.742. Eleven of the 41 loci were in Hardy-Weinberg equilibrium ($P < 0.05$). Initial analysis is showing most of the molecular variance is within populations vs. among populations.