

Section 4 Abstracts: Ecology and Genetics of the Chestnut Blight Fungus

Estimation of the Outcrossing Rate in the Chestnut Blight Fungus, *Cryphonectria parasitica*. Michael Milgroom, Susanne Lipari and Yir-Chung Liu. Department of Plant Pathology, Cornell University, Ithaca, NY 14853-5908, USA

The outcrossing rate in the chestnut blight fungus *Cryphonectria parasitica* was estimated in a natural population using three different types of genetic markers. We observed segregation for DNA fingerprinting restriction fragments, six unlinked RFLP loci and vegetative compatibility. This fungus was shown to have a mixed mating system with both self-fertilization and outcrossing in the same population. The proportion of perithecia with discernible outcrossing ranged from 0.73 (16/22) for the proportion that showed segregation for one or more DNA fingerprinting fragments, to 0.50 (11/22) for the proportion with progeny in vegetative compatibility groups that differed from the maternal strain. The proportion of perithecia that were discernibly outcrossed with single locus RFLP markers was 0.68 (15/22). The multilocus estimate of outcrossing based on six RFLP loci was 0.74. We found no evidence for multiple male parents in ascospore families from single perithecia.