TREATMENT OF *ENDOTHIA PARASITICA* CANKERS USING 4 HYPOVIRULENT SLURRIES

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ABSTRACT.--Four different mixtures of hypovirulent strains and water agar checks were used to treat naturally occurring *Endothia parasitica* cankers on American chestnut. The hypovirulent mixtures were incorporated into agar and blended to make four slurries that were comprised of either a mixture of debilitated white strains (Grente's B-type); a mixture of slightly pigmented Italian strains of intermediate pathogenicity; a pigment but debilitated strain mixture (Grente's JR type); or, a general slurry including all strains and several North American hypovirulent isolates. New cankers were treated at 1 to 2 month intervals as they developed from May to November by punching 0.5 cm holes to the cambium at 1.0 cm intervals around the canker margin and introducing the slurry treatment. Each center was measured at the time of treatment and then during May and November of subsequent years. All treatments have slowed canker expansion when compared to the water agar checks. The general and B-type mixtures have slowed canker expansion the most and also contain the greatest number of debilitated strains. Many cankers that appear to be checked during the season of treatment commence growth in subsequent seasons. The month of canker treatment appears to have little effect on the canker's response to treatment. The number of new infections that arise on trees with treated cankers continues to increase and eventually results in tree mortality. The most encouraging result is that in certain plots up to 14 percent of the new infections contain hypovirulent inoculum. Further data management and statistical analyses are underway.