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FORMULATION OF A POTENTIAL BIOCONTROL AGENT FOR CALAMAGROSTIS CANADENSIS. Richard S. Winder, Simon F. Shamoun, and Charles E. Dorworth. Forestry Canada, Pacific Forestry Centre, 506 W. Burnside Road, Victoria, British Columbia, V8Z 1M5, Canada.

A new Colletotrichum sp. was formulated to enhance virulence on Calamagrostis canadensis (Michx.) Beauv., a reforestation weed in Canada. Conidia were dissolved in a 0.01 M tannic acid solution and rinsed to remove the matrix. In vitro matrix inhibition was eliminated; in vivo germination was lacking and coverage was poor. Tween 20 (0.02% v/v) completely inhibited germination, as did skimmed milk. Soy milk and 25% (v/v) Aloe extract did not affect in vitro germination; germination in Aloe extract in vitro was normal but there was no significant damage at rates of up to 1×10^8 conidia m^{-2} . Mycelia from four 10% dextrose liquid cultures or conidia from four potato dextrose agar cultures were incorporated into a 2% (w/v) sodium alginate, 20% (w/v) kaolin clay, and 150 mg streptomycin sulfate/ml solution, solidified in 0.25 M $CaCl_2$, dried, and ground. Plants watered until runoff and dusted with $0.01 g m^{-2}$ conidial powder exhibited no significant damage. Mycelial dust caused $36 \pm 1\%$ leaf area damage (LAD) after 48h dew. This increased to $53 \pm 3\%$ when 2% vegetable oil surfactant (VS) was the wetting agent. With 16 h dew, spray until runoff of 132g/L hyphae in a solution of 0.5% sodium alginate resulted in ca. 30% biomass reduction and LAD after one week. It is possible to combine the liquid formulation with VS and the powdered formulation to attempt further improvement.