Sources of inoculum of *Rhexocercosporidium panacis*, the cause of rusted root disease of ginseng (*Panax quinquefolius*). *R.D. Reeleder, J.J. Miller, and B.B. Capell. Agriculture and Agri-Food Canada, 1391 Sandford St., London, ON, N5V 4T3.*

Detection and elimination of inoculum sources is often a successful approach in disease management. A cultivation-independent technique was used to determine possible sources of inoculum of *Rhexocercosporidium panacis*, the cause of rusted root (rusty root) of ginseng (Phytopathology 96:1243-1254; Mycologia 99 (in press)). Nested PCR amplifications were used to detect inoculum in soil, straw mulch and seed samples. DNA was first extracted from soil (Can. J. Plant Pathol. 25:182-191) and plant samples. DNA was then amplified using, first, a universal ITS5/ITS4 primer set, followed by amplification with the *Rhexocercosporidium*-specific ONBCU3 [5'-CAAAGAATAGACAGCGCCTCACAT-3'] / ONBCL2 [5'-CCCCCGGAATACCAGAG-3'] oligonucleotides. To confirm identity of PCR products, DNA from representative bands observed in electrophoretic gels was purified and compared to GenBank sequences. The fungus was detected rarely in soils not previously used for ginseng and in 'new' straw. By contrast, the fungus was frequently detected in four-year-old ginseng gardens and in weathered straw collected from raised beds in these gardens. However, in certain older gardens and weathered straw samples, the fungus was rarely detected. One of 12 lots of 'green' (non-stratified) seed contained detectable populations of *R. panacis*. By contrast, 9 of 15 lots of stratified seed contained the pathogen. We conclude that stratified seed is a major source of inoculum dispersal and introduction into ginseng gardens.

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