

## Abstract

### **Reducing powdery scab incidence and severity using commercial PCR soil testing for *Spongospora subterranea***

**Stuart Wale**

**SAC, Ferguson Building, Aberdeen AB21 9YA, United Kingdom  
stuart.wale@sac.co.uk**

As part of a potato soil-borne disease diagnostic project funded by the GB Potato Council, RT-PCR soil diagnostic tests were developed and validated for a range of pathogens (1). SAC have taken the test for *Spongospora subterranea* and developed it as a commercial service for potato growers. Over the last three years, hundreds of soil samples have been tested from fields destined for potato production and advice provided on the results of the test. There are three categories of test result. 1. Undetected – in this category soil contamination is assumed to be very low and provided seed to be planted is not infected or contaminated the risk of powdery scab development is low; 2. 1-10 sporeballs per gram of soil – risk of future disease development is dependent on soil environmental conditions but infection is likely to occur. Any seed infection will add little further risk of powdery scab development; 3. >10 sporeballs per gram of soil. Development of powdery scab is a high risk in fields with this level of contamination. Feedback from growers using the test has indicated that, with guidance, they use the results to decide which cultivar will be grown in which field and thereby lessen disease risk or, for seed growers, to decide whether incorporation of the fungicide fluazinam in soil should be made (fluazinam has a Specific Off-label Approval for reduction of powdery scab in the UK). Repeat use of the soil test by growers has indicated that they believe the soil test is useful in reducing incidence and severity of this problematic potato disease.

(1) J Brierley, A Lees, A Hilton, S Wale, J Peters, J Elphinstone, N Boonham (2008) Improving decision making for the management of potato diseases using realtime diagnostics. Final report. Potato Council, June 2008.