

## DISEASE NOTE

**FIRST RECORD OF POWDERY  
SCAB CAUSED BY *SPONGOSPORA*  
*SUBTERRANEA* SUBSP. *SUBTERRANEA*  
ON POTATO IN MALTA****A. Porta-Puglia and D. Mifsud**

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Potato (*Solanum tuberosum* L.) is a major crop in Malta. *Spongospora subterranea* (Wallr.) Lagerh. f.sp. *subterranea* Tomlinson (Sss), agent of powdery scab, affects the quality of the crop and can transmit *Potato mop-top virus*. In April 2005, powdery scab was observed at harvest on tubers of potato cv Derby in a field at Qrendi. The symptoms ranged from mild (typical) to extremely severe, mimicking wart disease. Histological observations disclosed the presence of Sss cystosori and excluded that of the wart organism. The identification of the fungus was confirmed by the one-step assay based on lateral-flow immunochromatography, using monoclonal antibodies specific for *S. subterranea* (AgriStrip kit, BIOREBA AG, Reinach, Switzerland). Pathogenicity was tested on tomato seedlings (Merz, 1989). To this aim, tomato F1 Tornádo (SEMO, Smiržice, Czech Republic) plants were grown from seed on river sand watered with nutrient solution. Three weeks after sowing, the roots were trimmed to 40 mm, and the plants were transferred to nutrient solution. After one week, the roots of eight seedlings were exposed for three days to a water suspension of cystosori ( $3 \times 10^3 \text{ ml}^{-1}$ ) scraped from tuber scab lesions and maintained for three days at 15°C in the dark. Eight control seedlings were treated in the same way with sterile nutrient solution. The plants were transferred to glass tubes containing nutrient solution kept at  $15 \pm 2^\circ\text{C}$  and 15h photoperiod (daylight plus fluorescent white-light) for seven days and their roots were then stained and observed under the microscope. Zoosporangia of *S. subterranea* were detected in root hairs and epidermal cells of all inoculated seedlings, whereas the roots of the controls were zoosporangia-free. This is the first record of Sss from the Maltese Archipelago. Temperatures cooler than normal that occurred in autumn and winter 2004-2005 may have favoured the powdery scab outbreak.

Merz U., 1989. Infectivity, inoculum density and germination of *Spongospora subterranea* resting spores: a solution-culture test system. *Bulletin OEPP/EPPPO Bulletin* 19: 585-592.

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