



First report of *Potato leafroll virus*, *Potato virus A*, *Potato virus X* and *Potato virus Y* in potato in Greenland

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Potatoes in Greenland are produced in the southwestern region, mainly along the fjords of the west coast between 60° N and 61.5° N. No production of certified seed potatoes has been established in the country and Greenlandic farmers use either seed tubers imported primarily from Denmark and The Netherlands or home-saved seed tubers. Planting takes place between late May and mid-June. Shortly after planting, the potato field is normally covered with acrylic or plastic sheets to increase temperature during cultivation. The harvest period is mid-August to mid-September.

A survey for potato viruses was performed between mid-August and the beginning of September during the 2009 and 2010 growing seasons. Tubers or leaves were sampled from plants showing virus symptoms of rugosity and dwarfing (Fig. 1) from a total of 14 farms in the agricultural region of southern Greenland. In total, 84 samples were collected, 30 leaf and 54 tuber samples. During the sampling period the leaf samples were dehydrated with calcium chloride according to Albrechtsen (2006) to conserve them, while tubers were stored at room temperature. The tubers were sprouted in a glasshouse and thirty days post-emergence leaf samples were taken. All samples were analysed for the presence of the most common potato viruses in Europe: *Potato leafroll virus* (PLRV), *Potato virus A* (PVA), *Potato virus M*, *Potato virus S*, *Potato virus V*, *Potato virus X* (PVX), *Potato virus Y* (PVY), *Tobacco rattle virus* and *Potato mop-top virus*

(PMTV) by DAS-ELISA using commercially produced antibodies according to the manufacturers' instructions (obtained from Loewe Biochemica GmbH except PMTV antibodies provided by Science and Advice for Scottish Agriculture). A reaction was assessed positive according to Samson *et al.* (1993).

The following viruses were identified (with the number of positive samples in brackets): PVY (15), PVA (2), PVX (1) and PLRV (1). To our knowledge this is the first time that potato viruses have been recorded in Greenland. The survey reinforces what is already well-known - that seed tubers are the main pathway for the long-distance dispersal of viruses.

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Figure 1

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