

**Title** Fruit rot caused by *Phytophthora* sp. In cold-stored pears in the valley of Rio Negro and Neuquén, Argentina

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#### **Abstract**

Pear fruit conservation for long periods is associated with postharvest fungal diseases. In Argentina, the most important and widespread diseases are caused by *Penicillium* spp. and *Botrytis cinerea*, followed by *Alternaria* sp. and *Cladosporium* sp. and *Athelia epiphylla*. The last one can be important depending on the fruit-lot. This study reports the presence of one Oomycete, as the cause of pear fruit rot in postharvest. In 2010, during the first months of conservation of 'Williams', 'Packham's Triumph' and 'Red Bartlet' pears, in cold storage, in the eastern area of Alto Valle of Río Negro, fruit decay was recorded with losses between 5 and 20%, according to fruit-lot. Symptoms of decay were studied and its ethiology was determined using conventional and molecular methods. Fruit started showing circular, light to dark brown areas with irregular and diffuse margins that spread rapidly. The decayed area remained firm. The lesion diameter increased and it extended to pulp tissue to reach fruit core with a hyperbolic shape, different from the spherical shape caused by *Penicillium* spp. or *Botrytis* sp. The pathogen was isolated in V8 agar selective medium from pears with symptoms. By morphologic characteristics (colony and sporangia) of isolates, its association with clade 6 of *Phytophthora* was determined. The identification of isolates was confirmed by direct sequencing of the ITS rDNA region using DC6 and ITS4 primers. The nucleotide sequence showed 100% of similarity (745/745 pb) with sequences available in GenBank and was identified as an undescribed species inside *P. gonapodyides*-*P. megasperma* Clade 6. This is the first report of a new *Phytophthora* in postharvest pears.