EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION 01/8944 PPot Point 2.3.2

Report of a Pest Risk Assessment

This summary presents the main features of a pest risk assessment which has been conducted on the pest, according to EPPO Standard PP 5/3(1) Pest Risk Assessment Scheme.

Pest:	Potato latent virus
PRA area:	EPPO Region
Assessor:	Dr Colin Jeffries, Scottish Agricultural Science Agency, East Craigs Edinburgh, UK
Date:	3 September 2001
1. INITIATION	
1.1 Reason for doing PRA:	To determine whether potato latent virus, a recently discovered virus should be added to the EPPO A1 list. No previous PRAs exist for this virus.
1.2. Taxonomic position of pest:	Taxonomic position: Virus Family: Not yet assigned Genus: <i>Carlavirus</i> Species: Potato latent virus Acronym: PotLV Synonyms: Red La Soda virus
2. PROBABILITY OF INTRODUCTION	
2.1 Entry	
2.1.1 Geographical distribution:	Peru and North America.
2.1.2 Major host plants:	Potato (<i>Solanum tuberosum</i>). PotLV has been transmitted experimentally to <i>Chenopodium</i> , <i>Nicotiana</i> and <i>Physalis</i> spp. and some of these are grown in the EPPO Region.
2.1.3 Which pathway(s) is the pest likely to be introduced on:	Breeding material, seed potatoes (tubers and microplants) and ware potato tubers.
2.2 Establishment	
2.2.1 Crops at risk in the PRA area:	All potato crops.

2.2.2 Climatic similarity of present Similar. distribution with PRA area (or parts thereof):

2.2.3 Aspects of the pest's biology that would favour establishment:	The possible aphid vectors of PotLV (including <i>Myzus persicae</i>) are present throughout the PRA area. The virus is also transmitted mechanically but the relative importance of these two means of transmission in the field is not known.
2.2.4 Characteristics (other than climatic) of the PRA area that would favour establishment:	The virus is tuber borne and would survive from one tuber generation to the next. It does not seem to produce symptoms in the cultivars tested.
2.2.5 Which part of the PRA area is the endangered area:	All potato growing areas in the EPPO Region.
3. ECONOMIC IMPACT ASSESSMENT	
3.1 Describe damage to potential hosts in PRA area:	The virus is symtomless in all cultivars tested.
3.2 How much economic impact does the pest have in its present distribution:	None reported but no studies have been done to determine yield loss.
3.3 How much economic impact would the pest have in the PRA area:	It is difficult to judge the true economic impact of this symptomless virus. The yield loss in symtomless plants may be presumed to be similar to the closely related PVS which may cause yield losses of 0-20% depending on the cultivar infected. In addition, there is the potential for increased symptoms and yield loss from synergistic infection with other virues. If PotLV became established in the EPPO Region and the virus were listed as a quarantine pest by importing countries then there would be loss of export markets in those countries where PotLV is not known to occur. Further economic impact might be on certification schemes through the introduction of mandatory testing.

4. CONCLUSIONS OF PRA

4.1 Summarize the major factors that influence the acceptability of the risk from this pest:

- PotLV is a pest of potato, a very important crop to the EPPO Region.
- The virus systemically infects all plant parts and can be moved with tubers or microplants in international trade.
- The pest escaped post-entry quarantine measures commonly used by EU Member States, but fortuitously was detected soon after planting and eradicated.
- PotLV would be missed by methods currently used by most post-entry potato quarantine stations.
- PotLV seems to be symptomless in those cultivars tested and therefore will not be detected during normal phytosanitary inpections.
- PotLV seems to have spread from its origin (most likely the

4.2 Estimate the probability of entry:	 Andean Region of South America) to infect potatoes in parts of North America. PotLV comes from areas with ecoclimatic zones comparable with those of the EPPO Region. PotLV may be transmitted by aphids which are present in the EPPO Region. PotLV can probably be spread from crop to crop on machinery and by people. PotLV may have a potential economic impact. Breeding material 6.58 Seed 5.12 (microplants/microtubers), 5.33 (minitubers), 6.33 (field grown tubers) Ware 6.08
4.3 Estimate the probability of establishment:	7.58
4.4 Estimate the potential economic impact:	4.39
4.5 Degree of uncertainty	Because the virus has only been described fairly recently relatively little information is available on its distribution and effect on yield, particularly with different potato cultivars on in combination with other viruses. The importance of mechanical to aphid transmission in the spread of PotLV is also not known and this would be important in assessing the likely ease and rate of establishment in the EPPO Region.
5. OVERALL CONCLUSIONS OF THE ASSESSOR	Because PotLV is believed to be absent from the PRA and has the potential to cause yield loss (from comparison with PVS) it is proposed that PotLV should be a quarantine pest.

It could be useful for the recipient of this report to receive an illustration, either of the pest itself or of the damage it causes

.