



**Quick scan number: QS. VIR.2013.03**

<b>Quick scan date:</b> 1 November 2013		
1	What is the scientific name ( if possible up to species level + author, also include (sub)family and order) and English/common name of the organism? <i>Add picture of organism/damage if available and publication allowed.</i>	SB26/29 (isometric virus, family unknown). The virus is under investigation at the International Potato Center (CIP) in Peru. At present, the exact identity of the virus is unknown, because purification of the virus is difficult.. Electron microscopic examination revealed the presence of isometric particles in plant material showing symptoms of 'achaparramiento rugoso' disease. The virus has been given the name SB26/29 based on the codes of two studied isolates of the virus (SB26 and SB29) (2).
2	What prompted this quick scan? <i>Organism detected in produce for import, export, in cultivation, nature, mentioned in publications, e.g. EPPO alert list, etc.</i>	The quickscan was prompted by possible risks associated with the vector <i>Russelliana solanicola</i> . A quickscan for <i>R. solanicola</i> is performed to assess the risks of introduction and establishment of the insect by new trade pathways. Since SB26/29 has been reported to cause problems in <i>Solanum tuberosum</i> in Peru and its occurrence coincides with the spread by <i>R. solanicola</i> (1,2), a quickscan has been made.
3	What is the (most likely) area of distribution?	SB26/29 is reported to be present in Southern Peru. It has been reported for the first time in 1996. It has followed the spread of the vector <i>R. solanicola</i> in the region (2). It is not known whether it has a wider distribution.
4	Has the organism been detected, sighted and/or has it established itself in nearby countries (DE, BE, LU, FR, UK) Yes/no. If 'yes', provide details. No interceptions	No

5	<p>Does the organism cause any kind of plant damage in the current area of distribution and/or does the consignment demonstrate damage suspected to have been caused by this organism?  <i>Yes/no + host plants + short explanation of symptoms.</i>  <i>Please indicate also when the organism is otherwise harmful (e.g. predator, human/veterinary pathogen vector, etc.).</i></p>	<p>Yes. In Peru, severe symptoms have been described on infected plants: mosaic, rugosity and dwarfing. Yield reduction of infected plants varied from 20 to over 90% depending on the cultivar (1,2).</p>
6	<p>Indicate the (provisional) probability of establishment of the organism in the Netherlands regarding climate and ecology.  a. In greenhouses (low, medium, high)  b. Outdoors (low, medium, high)  c. Otherwise (e.g. storage facilities, human environment)  <i>Please illustrate with information/references</i></p>	<p>The virus has only been reported in potato fields in Southern Peru at altitudes between 500 and 2600 m (1,2). Since this is also the area where the vector is present, virus establishment seems related to the presence of the vector. The role of seed potatoes in the epidemiology is unclear, since the main focus in the cited references is on the vector. Therefore, the probability of establishment of the virus in the field at least strongly depends on the possibility of the vector to survive outdoors in the Netherlands.</p>
7	<p>If the organism would become established in the Netherlands, what kind of damage would it likely cause ?  <i>Indicate whether damage is expected to be comparable or different to that in area of present distribution : see question 5.</i></p>	<p>Since there is little information available on the virus, it is difficult to assess the potential impact for the Netherlands. If potato would become infected, there might be yield losses depending on the susceptibility of cultivars and the extent of spread of the virus in the field.</p>
8	<p>Which commercially grown host plants are present and which host plants are present in the natural environment in the Netherlands?  <i>If establishment is restricted to greenhouse climate, list only host plants in greenhouses.</i></p>	<p><i>S. tuberosum</i> (potato) is the only natural host reported. After sap inoculation also some other solanaceous hosts could be infected but with difficulty (1). However, since little research has been done on the virus, the (natural) host range of the virus might be broader.</p>
9	<p>Provide a provisional estimation of type and probable amount of direct and indirect economic damage (e.g. lower quality, lower production, export restrictions, threat to biodiversity, etc.) likely to occur if the organism would become established?</p>	<p>If infected seed potatoes are used yield losses might occur. Direct economic impact will strongly depend on the distribution of the virus, which is related both to the presence of virus in seed potatoes and the occurrence of the vector <i>R. solanicola</i> in the field.  Indirect economic damage might occur due to export restrictions if the virus would become established and higher costs for testing of seed potatoes.</p>
10	<p>What are the possibilities of spreading, either by natural dispersal or human activity?</p>	<p>The virus is reported to be transmitted by the psyllid <i>R. solanicola</i> in a semi-persistent manner. Both adults and nymphs are reported to transmit the virus.  Moreover, the virus is likely to spread by infected planting material (seed potatoes).</p>

11	In what manner could the organism enter the Netherlands? <i>Mention pathways.</i>	<ol style="list-style-type: none"> <li>1) Plant material: Plant material of potato is prohibited to enter the EU. Under EC directive 2008/61 potato material for breeding purposes can enter only after post-entry quarantine testing. It is unknown if existing test procedures will detect SB26/29. However, symptoms might be observed on potato plants tested. In addition, the virus might be detected by mechanical inoculation of solanaceous indicator plants, although mechanical transmission might be difficult. Therefore the relevance of this pathway is uncertain.</li> <li>2) Vector: since the virus is reported to be transmitted in a semi-persistent manner, the insect will probably lose its ability to transmit the virus after some days. Therefore it is unlikely that the virus will be introduced with the vector if no suitable host plants are associated with the pathway.</li> <li>3) Ware potatoes: If ware potatoes would be imported from infected areas, the virus might enter the Netherlands. However, the risks of this pathway are uncertain.</li> </ol>
12	Has the organism been detected on/in a product (cut flowers, fruit...) destined for the consumer market? <i>If "no", please go to question 14</i>	No
13	If the organism has been found on/in product other than plants for planting (e.g. cut flowers, fruit, vegetables), are there any risks of introduction and establishment in crop areas and/or natural environment in the Netherlands?	NA
14	Additional remarks	In principle, this virus is already covered by requirements of Council Directive 2000/29/EC, based on the presumption that SB26/29 concerns a potato virus not known to occur in any part of the European Community. This type of potato viruses is included in annex IAI-(d) of Council Directive 2000/29/EC.
15	References:	<ol style="list-style-type: none"> <li>1. L. Salazar (2006) Emerging and Re-emerging Potato Diseases in the Andes. <i>Potato Research</i> 49: 43-47</li> <li>2. Tenorio, J., Chuquillanqui, C., Garcia, A., Guillen, M., Chavez, R., and Salazar, L.F. 2003. Symptomatology and effect on potato yield of achaparramieto rugoso. <i>Fitopatologia</i> 38(1):32-36</li> </ol>
16	<b>Conclusions</b>	<ul style="list-style-type: none"> <li>• Little information is available about this virus and at present the exact identity of the virus is unknown.</li> <li>• The virus is probably transmitted by the psyllid species <i>Russelliana solanicola</i>.</li> <li>• In absence of a natural vector, the impact will probably be limited (the virus might be transmitted by planting material but virus free material could be derived in certification systems in absence of a natural vector)</li> <li>• The probability of introduction of the virus seems low because of the EU import prohibition of plants for planting of Solanaceae</li> </ul>
17	<b>Follow-up measures</b>	A quick scan of the vector, <i>Russelliana solanicola</i> , will be conducted.