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CONTENTS

Pests & Diseases

- [2012/115](#) - First report of '*Candidatus Liberibacter solanacearum*' in Honduras
- [2012/116](#) - '*Candidatus Liberibacter solanacearum*' detected on potatoes in Idaho, Oregon and Washington (US)
- [2012/117](#) - '*Candidatus Liberibacter solanacearum*' detected on tomato plants in Texas (US)
- [2012/118](#) - First report of '*Candidatus Liberibacter solanacearum*' on carrots in Finland, in association with *Trioza apicalis*
- [2012/119](#) - First report of '*Candidatus Liberibacter solanacearum*' on carrots in Sweden, in association with *Trioza apicalis*
- [2012/120](#) - First report of '*Candidatus Liberibacter solanacearum*' on carrots in Norway, in association with *Trioza apicalis*
- [2012/121](#) - First report of '*Candidatus Liberibacter solanacearum*' on carrots and celery in Spain, in association with *Bactericera trigonica*
- [2012/122](#) - First report of *Tomato chlorosis virus* in potato in Brazil
- [2012/123](#) - Citrus leaf spot diseases caused by *Cryptosporiopsis citricarpa* and *C. citri*
- [2012/124](#) - First report of *Mycosphaerella dearnessii* in the Republic of Korea
- [2012/125](#) - First report of *Monilinia fructicola* in Serbia on stored apples
- [2012/126](#) - *Monilinia fructicola* detected in Andalucía (ES)
- [2012/127](#) - First report of *Monilia polystroma* in Switzerland
- [2012/128](#) - EPPO report on notifications of non-compliance
- [2012/129](#) - Symposium on the management of fruit flies in Near East countries (Hammamet, TN, 2012-11-06/08)
- [2012/130](#) - EPPO/NEPPO Workshop on Surveillance (Alger, 2012-09-18/20)

Invasive Plants

- [2012/131](#) - A review of the impacts of invasive alien plants
- [2012/132](#) - Some biofuel crops used in Hungary
- [2012/133](#) - First report of *Conyza sumatrensis* in Romania
- [2012/134](#) - *Anredera cordifolia* naturalized in Croatia
- [2012/135](#) - A new project for the use of indigenous plants species in Reunion Island (FR)
- [2012/136](#) - New EPPO lists of invasive alien plants
- [2012/137](#) - The effects of water level variation on the growth of *Myriophyllum aquaticum*

2012/115 First report of ‘Candidatus Liberibacter solanacearum’ in Honduras

In Honduras, heavy infestations of *Bactericera cockerelli* were observed from 2006 to 2009 in commercial potato (*Solanum tuberosum*) fields in Azacualpa (Santa Bárbara Department). Affected potato plants showed interveinal chlorosis, vein-greening, downward leaf curling, stunting, above ground tuber formation, and brownish flecks in some tubers. Disease incidence ranged between 50 to 95%. As these symptoms resembled those of zebra chip disease, leaf samples and psyllids were collected from 7 fields in 2 potato-growing regions of Honduras, and tested for the possible presence of ‘Candidatus Liberibacter solanacearum’ (EPPO Alert List). The later was detected in 12 (out of 17) potato samples and in 7 (out of 10) psyllid specimens. This is the first time that ‘Candidatus Liberibacter solanacearum’ is detected in Honduras. These results suggest that ‘zebra chip’ or a similar potato disease occurs in Honduras which may present a serious threat to potato production in Honduras.

Source: Rehman M, Melgar JC, Rivera JM, Idris AM, Brown JK (2010) First report of ‘Candidatus Liberibacter psyllaurosus’ or ‘Ca. Liberibacter solanacearum’ associated with severe foliar chlorosis, curling, and necrosis and tuber discoloration of potato plants in Honduras. *Plant Disease* **94**(3), p 376.

Additional key words: new record

Computer codes: LIBEPS, HN

2012/116 ‘Candidatus Liberibacter solanacearum’ detected on potatoes in Idaho, Oregon and Washington (US)

In 2011, the occurrence of zebra chip disease of potatoes was observed for the first time in the states of Idaho, Oregon and Washington (US). The presence of ‘Candidatus Liberibacter solanacearum’ (EPPO Alert List) was detected in diseased tubers.

Source: Crosslin JM, Hamm PB, Eggers JE, Rondon SI, Sengoda VG, Munyaneza JE (2012) First report of zebra chip disease and ‘Candidatus Liberibacter solanacearum’ on potatoes in Oregon and Washington state. *Plant Disease* **96**(3), 452-453.
Crosslin JM, Olsen N, Nolte P (2012) First report of zebra chip disease and ‘Candidatus Liberibacter solanacearum’ on potatoes in Idaho. *Plant Disease* **96**(3), p 453.

Additional key words: detailed record

Computer codes: LIBEPS, US

2012/117 ‘Candidatus Liberibacter solanacearum’ detected on tomato plants in Texas (US)

In the USA, the presence of ‘Candidatus Liberibacter solanacearum’ has been detected for the first time in field tomato plants (*Solanum lycopersicum*) in Texas (Lubbock county). In August 2008, 30% of tomato plants in several field plots showed yellowing, lateral stem dieback, upward leaf curling, enlargement of stems, adventitious roots and swollen nodes.

Source: French-Monar, RD, Patton AF, Douglas JM, Abad JA, Schuster G, Wallace RW, Wheeler TA (2010) First report of ‘Candidatus Liberibacter solanacearum’ on field tomatoes in the United States. *Plant Disease* **94**(4), p 481.

Additional key words: detailed record

Computer codes: LIBEPS, US

2012/118 First report of ‘*Candidatus Liberibacter solanacearum*’ on carrots in Finland, in association with *Trioza apicalis*

In August 2008, carrot plants (*Daucus carota*) with symptoms resembling those caused by the carrot psyllid, *Trioza apicalis* (Hemiptera: Triozidae), were observed in 14 commercial fields in Finland. Affected plants showed leaf curling, yellow and purple discolouration of leaves, stunting of tap roots and shoots, and proliferation of secondary roots. Investigations revealed the presence of ‘*Candidatus Liberibacter solanacearum*’ in diseased plants (including 1 asymptomatic plant). This is the first time that ‘*Ca. L. solanacearum*’ is reported in Europe and also the first time that it is reported in association with a non-solanaceous plant. During these studies it was also found that ‘*Ca. L. solanacearum*’ could also be detected in mixed infections with Aster yellows phytoplasma in symptomatic carrot plants.

Source: Munyaneza JE, Fisher TW, Sengoda VG, Garczynski SF, Nissinen A, Lemmetty A (2010) First report of ‘*Candidatus Liberibacter solanacearum*’ associated with psyllid-affected carrots in Europe. *Plant Disease* 94(5), p 639.

Munyaneza JE, Fisher TW, Sengoda VG, Garczynski SF, Nissinen A, Lemmetty A (2010) Association of ‘*Candidatus Liberibacter solanacearum*’ with the psyllid, *Trioza apicalis* (Hemiptera: Triozidae) in Europe. *Journal of Economic Entomology* 103(4), 1060-1070.

Munyaneza JE, Lemmetty A, Nissinen A, Sengoda VG, Fisher TW (2011) Molecular detection of Aster yellows phytoplasma and ‘*Candidatus Liberibacter solanacearum*’ in carrots affected by the psyllid, *Trioza apicalis* (Hemiptera: Triozidae) in Finland. *Journal of Plant Pathology* 93(3), 697-700.

Additional key words: new record, new host

Computer codes: LIBEPS, FI

2012/119 First report of ‘*Candidatus Liberibacter solanacearum*’ on carrots in Sweden, in association with *Trioza apicalis*

In August 2011, carrot plants (*Daucus carota*) with symptoms resembling those caused by the carrot psyllid, *Trioza apicalis* (Hemiptera: Triozidae) and ‘*Candidatus Liberibacter solanacearum*’ (EPPO Alert List) were observed in commercial fields in southern Sweden. Affected plants showed leaf curling, yellow and purple discoloration of leaves, stunting of roots and shoots, and proliferation of secondary roots. In the studied area, 70% of the fields were affected, with approximately 1 to 45% of plants per field being symptomatic. Carrot plant and psyllid samples were collected from diseased fields in the province of Halland and molecular tests detected the presence of ‘*Ca. L. solanacearum*’ in plant (33 symptomatic and 4 asymptomatic) and psyllid samples. Comparison of DNA sequences showed 100% similarity between the sequences of ‘*Ca. L. solanacearum*’ obtained from Sweden and Finland. This is the first time that ‘*Ca. L. solanacearum*’ is reported from Sweden.

Source: Munyaneza JE, Sengoda VG, Stegmark R, Arvidsson AK, Anderbrant O, Yuvaraj JK, Rämert, Nissinen A (2012) First report of ‘*Candidatus Liberibacter solanacearum*’ associated with psyllid-affected carrots in Sweden. *Plant Disease* 96(3), p 453.

Additional key words: new record, new host

Computer codes: LIBEPS, SE

2012/120 First report of ‘*Candidatus Liberibacter solanacearum*’ on carrots in Norway, in association with *Trioza apicalis*

From late July to mid-September 2011, carrot plants (*Daucus carota*) with symptoms resembling those caused by the carrot psyllid, *Trioza apicalis* (Hemiptera: Triozidae) and ‘*Candidatus Liberibacter solanacearum*’ (EPPO Alert List) were observed in commercial fields in southeastern Norway. Affected plants showed leaf curling, yellow and purple discoloration of leaves, stunting of roots and shoots, and proliferation of secondary roots. In the studied area, 70% to 80% of the commercial fields and experimental plots were affected, with approximately 10 to 100% of plants per field being symptomatic. Samples of carrot plants (petiole and root tissues) were collected from 5 fields which were infested by *T. apicalis* in the counties of Ostfold, Vestfold, Oppland and Hedmark. Molecular tests were performed on 54 plants (27 symptomatic and 27 asymptomatic) and detected the presence of ‘*Ca. L. solanacearum*’ in 22 symptomatic and 5 asymptomatic plants. Comparison studies of DNA sequences showed 99-100% similarity between the sequences of ‘*Ca. L. solanacearum*’ obtained from Norway and Finland. This is the first time that ‘*Ca. L. solanacearum*’ is reported from Norway.

Source: Munyaneza JE, Sengoda VG, Sundheim L, Meadow R (2012) First report of ‘*Candidatus Liberibacter solanacearum*’ associated with psyllid-affected carrots in Norway. *Plant Disease* **96**(3), p 454.

Additional key words: new record, new host

Computer codes: LIBEPS, NO

2012/121 First report of ‘*Candidatus Liberibacter solanacearum*’ on carrots and celery in Spain, in association with *Bactericera trigonica*

In Spain, the presence of ‘*Candidatus Liberibacter solanacearum*’ (EPPO Alert List) on carrot (*Daucus carota*) crops has recently been reported from the mainland and the island of Tenerife (Islas Canarias). The pathogen was also found in association with *Bactericera trigonica*, which was not previously reported as a potential psyllid vector.

Comunidad Valenciana, Castilla-La Mancha

In summer 2008, symptoms resembling those of ‘*Ca. L. solanacearum*’ were observed in several commercial carrot fields severely infested with psyllids (*Bactericera* sp.). These fields were located in the provinces of Alicante (18 fields - approx. 62 ha) and Albacete (52 fields - 297 ha), in the regions of Comunidad Valenciana and Castilla-La Mancha, respectively. Similar symptoms were observed in the following years (i.e. 2009, 2010 and 2011). Molecular tests detected the presence of ‘*Ca. L. solanacearum*’ in 1, 12 and 12 symptomatic carrot samples collected in 2008, 2009, 2010 respectively. The presence of *Spiroplasma citri* and Aster yellows phytoplasma was also detected in some samples. Comparison studies of DNA sequences showed a 97-99% similarity between the sequences of ‘*Ca. L. solanacearum*’ obtained from Spain and Finland.

Tenerife

In 2009 and 2010, commercial carrot fields in Tenerife (Islas Canarias, Spain) showed symptoms of leaf curling, discoloration of the foliage (yellow, bronze to purple), stunting of shoots and tap root, and proliferation of secondary roots. In diseased fields, large populations of the psyllid *Bactericera trigonica* were observed. A total of 18 petiole samples from symptomatic carrots were collected (13 in 2009 and 5 in 2010), as well as 3 samples (groups of 5 individuals) of *B. trigonica*. Molecular tests detected the presence of

'*Ca. Liberibacter solanacearum*' in 16 symptomatic carrot samples and 3 psyllid samples. Comparison studies of DNA sequences showed a 99% similarity between the sequences of '*Ca. L. solanacearum*' obtained from Tenerife and Finland, and 98% similarity with sequences obtained from tomato in New Zealand.

Further records on celery and another region (Castilla León)

More recently, the NPPO of Spain has confirmed the detection of '*Ca. L. solanacearum*' on carrot and celery (*Apium graveolens*) crops in the regions of Castilla-La Mancha, Castilla León and Comunidad Valenciana, as well as on carrot crops in Tenerife (Islas Canarias). The NPPO also pointed out that further diagnostic studies are still needed to confirm the identity of the pathogen, as only one type of molecular tests was used so far. In addition, the role of '*Ca. L. solanacearum*' in the symptomatology observed needs to be further studied as the bacterium has often been found in association with *S. citri* and other phytoplasmas. Therefore, research is currently being carried out in Spain on the detection and identification of '*Ca. L. solanacearum*' and its symptomatology.

Source: Alfaro-Fernández A, Siverio F, Cebrián MC, Villaescusa FJ, Font MI (2012) '*Candidatus Liberibacter solanacearum*' associated with *Bactericera trigonica*-affected carrots in the Canary Islands. *Plant Disease* **96**(4), p 581-582.

Alfaro-Fernández A, Cebrián MC, Villaescusa FJ, Hermoso de Mendoza, A, Ferrándiz JC, Sanjuán S, Font, MI (2012) First report of '*Candidatus Liberibacter solanacearum*' in carrot in mainland Spain. *Plant Disease* **96**(4), p 582.

NPPO of Spain (2011-10).

Additional key words: new record, new host

Computer codes: LIBEPS, ES

2012/122 First report of *Tomato chlorosis virus* in potato in Brazil

In June 2011, potato plants (*Solanum tuberosum* cv. 'Agata') showing symptoms of leaf rolling and interveinal chlorosis were observed in a commercial crop in the county of Cristalina, State of Goiás, in Brazil. These symptoms were mainly observed on older potato leaves, and the crop was also heavily infested by *Bemisia tabaci* biotype B. Four potato tubers taken from symptomatic plants were tested for the presence of the following viruses: *Tomato chlorosis virus* (*Crinivirus*, ToCV - EPPO A2 List), *Potato leafroll virus* (*Polerovirus*, PLRV), *Tomato severe rugose virus* (*Begomovirus*, ToSRV) and *Potato virus Y* (*Potyvirus*, PVY). The presence of ToCV was detected in 3 tubers (RT-PCR, nested-PCR, sequencing). PLRV, ToSRV and PVY were also detected in 2, 2 and 3 tubers, respectively. In addition, transmission experiments were carried out with *B. tabaci* biotype B. The insect could transmit ToCV (acquired from infected potato and tomato leaves) to 1 potato plant (*S. tuberosum* cv. 'Agata'), and induce symptoms of leaf rolling and interveinal chlorosis on older leaves 37 days after inoculation. The authors underlined that this is the first time that ToCV is detected in a field potato crop. Considering that ToCV is transmitted by *B. tabaci* (present in many countries) and that ToCV can induce symptoms resembling those of PLRV, they considered that this should trigger an alert for those involved in seed potato production, virus testing and certification systems.

Source: Freitas DMS, Nardin I, Shimoyama N, Souza-Dias JAC, Rezende JAM (2012) First report of *Tomato chlorosis virus* in potato in Brazil. *Plant Disease* **96**(4), 593-594.

Additional key words: detailed record, host plant

Computer codes: TOCV00, BR

2012/123 Citrus leaf spot diseases caused by *Cryptosporiopsis citricarpa* and *C. citri*

Two citrus leaf spot diseases caused by new fungus species, *Cryptosporiopsis citricarpa* and *C. citri* have been observed in China and Oceania, respectively. *Cryptosporiopsis* species are the anamorphs of *Pezizula* or *Neofabraea*, but the teleomorphs of both *C. citricarpa* and *C. citri* are unknown. These two citrus diseases can cause defoliation and tree dieback, but do not affect citrus fruit directly.

- ***Cryptosporiopsis citricarpa* sp. nov.**

In winter 2006, an unusual leaf spot disease of Satsuma mandarins (*Citrus unshiu*) and kumquats (*Fortunella margarita*) was noticed in Chenggu county (Shaanxi province) in China. The causal agent was described as a new fungus species: *Cryptosporiopsis citricarpa* sp. nov. (Zhu *et al.*, 2012). This new citrus disease, called 'target spot', usually appeared around mid-December and peaked in February. Infected leaves show small, needle-like, reddish-brown lesions which enlarge to become circular to oval spots (1-13 mm in diameter). On the lower leaf surface, lesions are often surrounded by an oily halo. Leaf spots then become a paler shade (starting from the centre) and black dots (acervuli) are produced in a circular arrangement on the upper surface of the lesions (hence the name 'target spot'). Lesions can also be observed on petioles, shoots, branches or trunks, but citrus fruit are not affected. This disease can lead to severe defoliation, dieback and eventually tree mortality. In the Chenggu county, the disease has gradually become more important affecting a large proportion of citrus trees and causing tree mortality. It is noted that *C. citricarpa* is causing substantial economic losses in citrus production in Chenggu county (without further details). Surveys have been conducted during the last three years in China, and did not detect *C. citricarpa* in any other citrus-growing regions.

- ***Cryptosporiopsis citri***

In 1998, a new fungus species, *Cryptosporiopsis citri*, was described from citrus trees affected by a leaf spot disease (Johnston & Fullerton, 1998). *C. citri* was found on *Citrus aurantifolia*, *C. limon*, *C. sinensis* in several Pacific Islands (Cook Islands, Fiji, Niue, Samoa, Tonga, and Vanuatu). Affected citrus trees showed circular leaf spots (3-5 mm in diameter), slightly depressed, pale grey to brown with a dark-brown border. In some areas, trees were severely affected with many of the diseased leaves falling prematurely. *C. citri* has not been found associated with citrus fruit. The authors considered that although the symptomatology is different, the causal agent of this new leaf spot disease has been misidentified during past surveys in the above Pacific Islands as *Phyllosticta citricarpa* (anamorph of *Guignardia citricarpa* - EPPO A1 List). In November 2007, *C. citri* was detected on *C. aurantifolia* on a property in Virginia, Northern Territory, Australia. Delimiting surveys were carried out in Northern Territory and showed that *C. citri* was only present in this property where eradication measures have been taken.

- Source:** Johnston PR, Fullerton RA (1998) *Cryptosporiopsis citri* sp. nov.; cause of a citrus leaf spot in the Pacific Islands. *New Zealand Journal of Experimental Agriculture* **16**(2), 159-163.
- Ray JD, McTaggart AR, Shivas RG (2008) First record of *Cryptosporiopsis citri* on lime in Australia. *Australasian Plant Disease Notes* **3**(1), 158-159.
- Zhu L, Wang X, Huang X, Zhang J, Li H, Ding D, Hyde KD (2012) A destructive new disease of *Citrus* in China caused by *Cryptosporiopsis citricarpa* sp. nov. *Plant Disease* **96**(6), 804-812.

Additional key words: new pest

Computer codes: CYPTCP, CYPTCI, AU, CK, CN, FJ, NU, TO, VU, WS

2012/124 First report of *Mycosphaerella dearnessii* in the Republic of Korea

In March 2010, symptoms of needle blight were observed on several pine trees (*Pinus thunbergii*) near Naju, Republic of Korea. Further surveys in 2010 and 2011 showed that these symptoms were rather common but that the disease incidence was low (less than 1%). Morphological study of the fungus isolated from lesions revealed the presence of *Lecanosticta acicola* (anamorph of *Mycosphaerella dearnessii* - EPPO A2 List). The identity of the fungus was confirmed by molecular methods (sequencing) and pathogenicity tests. The teleomorph was not observed. This is the first time that *M. dearnessii* is reported from the Republic of Korea.

The situation of *Mycosphaerella dearnessii* in the Republic of Korea can be described as follows: **Present, first found in 2010 on *Pinus thunbergii* near Naju (southern part of the country).**

Source: Seo ST, Park MJ, Park HJ, Shin HD (2012) First report of brown spot needle blight on *Pinus thunbergii* caused by *Lecanosticta acicola* in Korea. *Plant Disease* **96**(6), p 914.

Additional key words: new record

Computer codes: SCIRAC, KR

2012/125 First report of *Monilinia fructicola* in Serbia on stored apples

In February 2011, during a survey for fungal postharvest pathogens in cold storage conditions, apple fruit (*Malus domestica*) grown and stored in the Grocka region, Serbia, were collected. All pathogens from symptomatic fruit were isolated on growing media (PDA). One fungus isolate from apple fruit (*M. domestica* cv. 'Golden Delicious') showing symptoms of brown rot was identified as *Monilinia fructicola* (EPPO A2 List) based on morphological and molecular characteristics. This is the first time that *M. fructicola* is reported from Serbia. It is acknowledged that further studies are needed to determine the distribution of *M. fructicola* in Serbia and assess its economic impact.

The situation of *Monilinia fructicola* in Serbia can be described as follows: **Present, first detected in 2011 on stored apples (originally grown in the Grocka region).**

Source: Vasić M, Duduk N, Ivanović MM, Obradović A, Ivanović MS (2012) First report of brown rot caused by *Monilinia fructicola* on stored apple in Serbia. *Plant Disease* **96**(3), p 456.

Additional key words: first record

Computer codes: MONIFC, RS

2012/126 *Monilinia fructicola* detected in Andalucía (ES)

During summer 2011 Japanese plum fruit (*Prunus salicina* cv. 'Larry Ann') showing symptoms of brown rot were observed in an experimental field at Alcalá del Río (province of Sevilla, Andalucía) in Spain. Fruit rot lesions were brown, sunken and covered with greyish brown tufts or pustules. The majority of the infected plums dried and mummified on the trees within 30 days. Laboratory analysis (morphology, PCR, inoculation studies) confirmed the presence of *Monilinia fructicola* (EPPO A2 List) in affected plums. Isolated outbreaks of *M. fructicola* had previously been detected in other regions of Spain (Aragón,

Cataluña and Extremadura, EPPO RS 2006/046, 2009/182), but this is the first time that the disease is detected in Andalucía.

The situation of *Monilinia fructicola* in Spain can be described as follows: **Present, isolated outbreaks reported in Andalucía, Aragón, Cataluña and Extremadura.**

Source: Arroyo FT, Camacho M, Daza A (2012) First report of fruit rot on plum caused by *Monilinia fructicola* at Alcalá del Río (Seville), Southwestern Spain. *Plant Disease* 96(4), p 590.

Additional key words: detailed record

Computer codes: MONIFC, ES

2012/127 First report of *Monilia polystroma* in Switzerland

In Europe, *Monilia polystroma* was first found in Hungary in 2009 and in the Czech Republic in 2011 (EPPO RS 2011/134). In Switzerland, during a survey on *Monilinia fructicola* (EPPO A2 List) conducted in July and August 2009 and 2010 in the Valais canton, the presence of *M. polystroma* was detected on apricots (*Prunus armeniaca*). This is the first time that *M. polystroma* is reported from Switzerland. It is estimated that the impact of *M. polystroma* on fruit is likely to be the same or very similar to that of *M. fructigena*.

Source: Hilber-Bodmer M, Knorst V, Smits THM, Patocchi A (2012) First report of Asian brown rot caused by *Monilia polystroma* on apricot in Switzerland. *Plant Disease* 96(1), p 146.

Additional key words: new record

Computer codes: MONIPO, CH

2012/128 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2012 received since the previous report (EPPO RS 2012/105). Notifications have been sent directly to EPPO by Algeria, Azerbaijan, Croatia, and via Europhyt for the EU countries and Switzerland. The EPPO Secretariat has selected notifications of non-compliance made because of the detection of pests. Other notifications of non-compliance due to prohibited commodities, missing or invalid certificates are not indicated. It must be pointed out that the report is only partial, as many EPPO countries have not yet sent their notifications. When a consignment has been re-exported and the country of origin is unknown, the re-exporting country is indicated in brackets. When the occurrence of a pest in a given country is not known to the EPPO Secretariat, this is indicated by an asterisk (*).

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Agromyza</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	Germany	1
<i>Agromyzidae</i>	<i>Alstroemeria</i>	Cut flowers	Ecuador	Spain	1
	<i>Apium graveolens</i>	Vegetables	Malaysia	Switzerland	1
	<i>Apium graveolens</i>	Vegetables	Thailand	Switzerland	1
	<i>Ocimum americanum</i>	Vegetables (leaves)	Malaysia	Switzerland	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	India	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	Germany	1
<i>Agromyzidae, Trialeurodes vaporariorum</i>	<i>Alstroemeria</i>	Cut flowers	Ecuador	Spain	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Aleurodicus dispersus	<i>Psidium guajava</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
Bemisia	<i>Salvia</i>	Plants for planting	Israel	United Kingdom	1
Bemisia tabaci	<i>Alternanthera</i>	Plants for planting	Singapore	United Kingdom	3
	<i>Alternanthera sessilis</i> , <i>Echinodorus</i> , <i>Rotala</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Ammannia senegalensis</i>	Plants for planting	Indonesia	France	1
	<i>Ammannia senegalensis</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Anubias barteri</i>	Plants for planting	Singapore	United Kingdom	7
	<i>Anubias</i> , <i>Echinodorus</i> , <i>Hygrophila polysperma</i>	Plants for planting	Sri Lanka	United Kingdom	1
	<i>Bacopa</i>	Plants for planting	Singapore	United Kingdom	3
	<i>Bacopa</i> , <i>Echinodorus</i> <i>bleheri</i>	Plants for planting	Sri Lanka	United Kingdom	1
	<i>Bacopa</i> , <i>Lysimachia</i> <i>nummularia</i> , <i>Nomaphila</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Capsicum annuum</i>	Cuttings	Israel	Spain	1
	<i>Cryptocoryne</i>	Plants for planting	Singapore	United Kingdom	2
	<i>Cryptocoryne petchii</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Cryptocoryne wendtii</i>	Plants for planting	Singapore	United Kingdom	4
	<i>Cryptocoryne wendtii</i> , <i>Ludwigia</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Echinodorus</i>	Plants for planting	Sri Lanka	United Kingdom	1
	<i>Echinodorus x barthii</i>	Plants for planting	Singapore	Finland	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Cambodia	France	2
	<i>Eustoma</i>	Cut flowers	Tanzania	Netherlands	2
	<i>Eustoma grandiflorum</i>	Cut flowers	Israel	Switzerland	2
	<i>Eustoma grandiflorum</i>	Cut flowers	Kenya	Netherlands	1
	<i>Gymnocoronis</i> , <i>Polygonum</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Hemigraphis repanda</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Hibiscus</i>	Vegetables (leaves)	Congo, Dem. Rep.	France	1
	<i>Hydrocotyle</i>	Vegetables (leaves)	Singapore	United Kingdom	1
	<i>Hygrophila</i>	Plants for planting	Singapore	Ireland	1
	<i>Hygrophila angustifolia</i>	Plants for planting	Sri Lanka	United Kingdom	1
	<i>Hygrophila corymbosa</i>	Plants for planting	Singapore	United Kingdom	2
	<i>Hygrophila polysperma</i>	Plants for planting	Sri Lanka	United Kingdom	1
	<i>Hygrophila rosanervis</i>	Plants for planting	Sri Lanka	United Kingdom	1
	<i>Hygrophila salicifolia</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Hygrophila salicifolia</i> , <i>Nomaphila</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Hypericum</i>	Cut flowers	Netherlands	Finland	1
	<i>Hypericum</i>	Cut flowers	Zimbabwe	Sweden	1
<i>Lisianthus</i>	Cut flowers	Israel	Spain	1	
<i>Lisianthus</i>	Cut flowers	Israel	United Kingdom	1	
<i>Lisianthus</i>	Cut flowers	Tanzania	Netherlands	1	
<i>Ludwigia</i>	Plants for planting	Singapore	United Kingdom	1	
<i>Lysimachia</i>	Plants for planting	Singapore	United Kingdom	1	
<i>Lysimachia nummularia</i>	Plants for planting	Singapore	United Kingdom	1	
<i>Manihot esculenta</i>	Vegetables	Congo, Dem. Rep.	France	2	
<i>Mentha</i>	Vegetables (leaves)	Malaysia	Switzerland	1	
<i>Momordica</i> , <i>Solanum</i> <i>melongena</i>	Vegetables	Pakistan	United Kingdom	1	
<i>Murraya koenigii</i>	Vegetables (leaves)	India	Ireland	3	
<i>Nomaphila</i>	Plants for planting	Singapore	United Kingdom	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
B. tabaci (cont.)	<i>Nomaphila</i> , <i>Gymnocoronis spilanthoides</i> , <i>Lysimachia nummularium</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Israel	United Kingdom	2
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	Belgium	1
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Colombia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Ireland	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	United Kingdom	9
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Jordan	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Malaysia	United Kingdom	3
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Myanmar	United Kingdom	3
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Spain (Canary Isl.)	Switzerland	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Sri Lanka	Netherlands	1
	<i>Ocimum sanctum</i>	Vegetables (leaves)	Malaysia	Switzerland	1
	<i>Polygonum odoratum</i>	Vegetables (leaves)	Cambodia	France	1
	<i>Rosa</i>	Cut flowers	Uganda	Belgium	1
	<i>Rotala</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Salvia</i>	Cuttings	Israel	France	1
	<i>Shinnersia rivularis</i>	Plants for planting	Singapore	United Kingdom	1
<i>Solidago</i>	Cut flowers	Zambia	Netherlands	1	
<i>Syngonium podophyllum</i>	Plants for planting	Singapore	United Kingdom	1	
<i>Syzygium</i>	Fruits	India	United Kingdom	1	
<i>Trachelium</i>	Cut flowers	Israel	United Kingdom	2	
Bemisia tabaci, Liriomyza	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
Bemisia, Liriomyza	<i>Ocimum basilicum</i>	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	1
Blissus diplopterus	<i>Prunus persica</i>	Fruits	South Africa	Germany	1
Chrysanthemum stunt viroid	<i>Argyranthemum</i>	Plants for planting	Italy	Belgium	1
Citrus exocortis viroid	<i>Citrus limon</i>	Plants for planting	Italy	Belgium	1
Clavibacter michiganensis subsp. michiganensis	<i>Solanum lycopersicum</i>	Seeds	China	Germany	2
	<i>Solanum lycopersicum</i>	Seeds	China	Italy	2
	<i>Solanum lycopersicum</i>	Seeds	Japan	Italy	1
Cryptophlebia leucotreta	<i>Citrus paradisi</i>	Fruits	South Africa	Spain	1
	<i>Citrus sinensis</i>	Fruits	South Africa	Spain	1
Curculionidae	<i>Oriza sativa</i>	Stored products	India	Spain	3
Dialeurodes citri	<i>Citrus hystrix</i>	Vegetables (leaves)	Thailand	United Kingdom	1
Dialeuropora decempuncta, Paraleyrodes minei	<i>Piper</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Piper sarmentosum</i>	Plants for planting	Singapore	United Kingdom	1
Diaphania indica	<i>Momordica</i>	Vegetables	Bangladesh	Italy	4
	<i>Momordica</i>	Vegetables	Sri Lanka	Italy	1
Diaphania indica, Tephritidae (non-European)	<i>Momordica</i>	Vegetables	Pakistan	Italy	1
	<i>Momordica charantia</i>	Vegetables	Bangladesh	Italy	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Diaphorina citri</i>	<i>Murraya koenigii</i>	Vegetables (leaves)	Dominican Rep.	United Kingdom	8
	<i>Murraya paniculata</i>	Plants for planting	Dominican Rep.	United Kingdom	1
<i>Diaspis boisduvalii</i>	Orchidaceae	Plants for planting	Brazil	Germany	1
<i>Dichocrocis punctiferalis</i>	<i>Psidium guajava</i>	Fruits	Pakistan	United Kingdom	1
Diptera	<i>Luffa acutangula</i>	Fruits	Ghana	United Kingdom	1
	<i>Mangifera</i>	Fruits	Ghana	United Kingdom	2
	<i>Mangifera indica</i>	Fruits	Ghana	United Kingdom	1
	<i>Momordica</i>	Vegetables	Kenya	United Kingdom	1
	<i>Momordica</i>	Vegetables	Kenya	United Kingdom	1
	<i>Momordica</i>	Vegetables	Kenya	United Kingdom	5
	<i>Momordica</i>	Vegetables	Vietnam	United Kingdom	1
	<i>Momordica charantia</i>	Vegetables	Kenya	United Kingdom	2
	<i>Momordica charantia</i>	Vegetables	Malaysia	Belgium	1
	<i>Momordica charantia</i>	Vegetables	Sri Lanka	United Kingdom	1
<i>Elsinoe fawcettii</i>, <i>Unaspis citri</i>, <i>Selenaspis articulatus</i>, <i>Mycetaspis personata</i>, <i>Aonidiella</i> <i>aurantii</i>, <i>Chrysomphalus aonidium</i>, <i>Lepidosaphes beckii</i>, <i>Parlatoria</i>	<i>Citrus aurantium</i>	Fruits	Dominican Rep.	Spain	1
Entomobryidae	<i>Dendrobium</i>	Cuttings	Taiwan	United Kingdom	1
<i>Ephestia</i>	<i>Helianthus annuus</i>	Stored products	Mongolia	Spain	1
Fungi	<i>Cucumis melo</i>	Fruits	Argentina	Spain	1
	<i>Malus domestica</i>	Fruits	China	Spain	1
<i>Globodera pallida</i>	<i>Solanum tuberosum</i>	Ware potatoes	Cyprus	Germany	1
<i>Guignardia citricarpa</i>	<i>Citrus limon</i>	Fruits	Argentina	Spain	4
	<i>Citrus maxima</i>	Fruits	China	United Kingdom	1
	<i>Citrus sinensis</i>	Fruits	Brazil	Netherlands	5
	<i>Citrus sinensis</i>	Fruits	South Africa	Spain	5
<i>Helicoverpa armigera</i>	<i>Capsicum frutescens</i>	Vegetables	India	Ireland	1
	<i>Vicia faba</i>	Vegetables	India	Ireland	1
Insecta	<i>Cucumis melo</i>	Fruits	Brazil	Spain	2
	<i>Cucumis melo</i>	Fruits	Senegal	Spain	1
	<i>Syagrus</i>	Stored products	Comoros	Spain	1
Lepidoptera	<i>Solanum</i>	Vegetables	Sri Lanka	Italy	1
Lepidoptera, Tephritidae (non-European)	<i>Citrullus lanatus</i> , <i>Psidium</i>	Fruits	Pakistan	Spain	1
<i>Leucinodes orbonalis</i>	<i>Mangifera</i> , <i>Momordica</i> , <i>Solanum melongena</i>	Fruits	Sri Lanka	Italy	1
	<i>Solanum</i>	Vegetables	Vietnam	Germany	1
	<i>Solanum melongena</i>	Vegetables	Cameroon	Belgium	2
	<i>Solanum melongena</i>	Vegetables	India	Sweden	1
	<i>Solanum melongena</i>	Vegetables	Laos	Belgium	1
	<i>Solanum melongena</i>	Vegetables	Malaysia	Belgium	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb	
L. orbonalis (cont.)	<i>Solanum melongena</i>	Vegetables	Malaysia	Germany	1	
	<i>Solanum melongena</i>	Vegetables	Pakistan	Italy	2	
	<i>Solanum melongena</i>	Vegetables	Sri Lanka	Italy	5	
	<i>Solanum melongena</i>	Vegetables	Vietnam	Germany	1	
Leucinodes orbonalis, Tephritidae (non-European)	<i>Mangifera indica, Solanum melongena</i>	Fruits	Sri Lanka	Italy	1	
Liriomyza	<i>Amaranthus</i>	Vegetables (leaves)	Bangladesh	United Kingdom	1	
	<i>Apium graveolens</i>	Vegetables	Malaysia	United Kingdom	1	
	<i>Apium graveolens</i>	Vegetables	Vietnam	Sweden	1	
	<i>Apium graveolens</i>	Vegetables	Vietnam	United Kingdom	1	
	<i>Apium graveolens</i>	Vegetables	Vietnam	United Kingdom	1	
	<i>Chrysanthemum</i>	Cut flowers	Colombia	United Kingdom	1	
	<i>Chrysanthemum</i>	Cut flowers	Ecuador	United Kingdom	1	
	<i>Chrysanthemum morifolium</i>	Cut flowers	Ecuador	United Kingdom	2	
	<i>Chrysanthemum morifolium</i>	Cut flowers	South Africa	United Kingdom	2	
	<i>Coriandrum</i>	Vegetables (leaves)	India	United Kingdom	1	
	<i>Coriandrum sativum</i>	Vegetables (leaves)	India	United Kingdom	2	
	<i>Coriandrum sativum</i>	Vegetables (leaves)	Vietnam	United Kingdom	3	
	<i>Eryngium</i>	Cut flowers	Ecuador	United Kingdom	1	
	<i>Gypsophila</i>	Cut flowers	Ecuador	United Kingdom	2	
	<i>Gypsophila</i>	Cut flowers	Ethiopia	United Kingdom	2	
	<i>Gypsophila</i>	Cut flowers	Israel	United Kingdom	3	
	<i>Gypsophila, Solidago</i>	Cut flowers	Israel	United Kingdom	1	
	<i>Ocimum</i>	Vegetables (leaves)	Egypt	United Kingdom	2	
	<i>Ocimum</i>	Vegetables (leaves)	Israel	United Kingdom	1	
	<i>Ocimum</i>	Vegetables (leaves)	Kenya	United Kingdom	1	
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	United Kingdom	2	
	<i>Ocimum</i>	Vegetables (leaves)	Vietnam	United Kingdom	4	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Egypt	United Kingdom	2	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	India	United Kingdom	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Czech Rep.	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	United Kingdom	4	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Kenya	United Kingdom	9	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Laos	Czech Rep.	2	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Laos	United Kingdom	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Malaysia	United Kingdom	2	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	5	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	United Kingdom	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	Germany	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	United Kingdom	6	
	<i>Psidium</i>	Fruits	Pakistan	United Kingdom	1	
	<i>Solidago</i>	Cut flowers	Zimbabwe	United Kingdom	1	
	<i>Trigonella foenum- graecum</i>	Vegetables (leaves)	(Pakistan)	Germany	1	
	<i>Trigonella foenum- graecum</i>	Vegetables (leaves)	India	Germany	4	
	Unspecified, <i>Mangifera indica</i>	Vegetables	India	Ireland	1	
	Liriomyza bryoniae	<i>Ocimum</i>	Vegetables (leaves)	Kenya	United Kingdom	1
	Liriomyza huidobrensis	<i>Apium graveolens</i>	Vegetables	Vietnam	Sweden	2
		<i>Aster</i>	Cut flowers	Ecuador	Netherlands	3

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
L. huidobrensis (cont.)	<i>Chrysanthemum</i>	Cut flowers	Ecuador	Spain	1
	<i>Dianthus</i>	Cut flowers	Kenya	Netherlands	2
	<i>Dianthus barbatus</i>	Cut flowers	Kenya	Netherlands	1
	<i>Eryngium</i>	Cut flowers	Kenya	Netherlands	12
	<i>Gypsophila</i>	Cut flowers	Ecuador	Netherlands	11
	<i>Gypsophila</i>	Cut flowers	Kenya	Netherlands	4
	<i>Gypsophila</i>	Cuttings	Kenya	Netherlands	1
	<i>Helenium</i>	Plants for planting	Kenya	Netherlands	1
	<i>Lisianthus</i>	Cut flowers	Kenya	Netherlands	1
	<i>Mecardonia</i>	Cuttings	Netherlands	Finland	1
	<i>Solidago</i>	Cut flowers	Ecuador	Netherlands	1
	<i>Solidago</i>	Cut flowers	Kenya	Netherlands	1
	<i>Thunbergia alata</i>	Cuttings	Netherlands	Finland	1
	<i>Trachelium</i>	Cut flowers	Ecuador	Netherlands	1
Liriomyza sativae	<i>Brassica alboglabra</i>	Vegetables	Malaysia	Netherlands	1
	<i>Ocimum</i>	Vegetables (leaves)	Kenya	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	Netherlands	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia*	Sweden	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	India	Netherlands	4
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Kenya	Netherlands	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Laos*	Czech Rep.	1
	<i>Trigonella foenum-graecum</i>	Vegetables (leaves)	India	Germany	1
Liriomyza trifolii	<i>Apium graveolens</i>	Vegetables	Malaysia	Netherlands	2
	<i>Aster, Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	2
	<i>Gypsophila</i>	Cut flowers	Kenya	Netherlands	1
	<i>Ocimum</i>	Vegetables (leaves)	Egypt	United Kingdom	2
	<i>Ocimum</i>	Vegetables (leaves)	Vietnam	United Kingdom	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Egypt	United Kingdom	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Ethiopia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Jordan	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	Czech Rep.	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	Sweden	3
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	United Kingdom	1
	<i>Solidago</i>	Cut flowers	Zambia	Netherlands	1
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	4
Meloidogyne	<i>Coriandrum sativum</i>	Vegetables (leaves)	Vietnam	United Kingdom	1
Meloidogyne chitwoodi	<i>Allium, Amaranthus</i>	Vegetables	Congo, Dem. Rep.	France	1
Meloidogyne enterolobii (=M. mayaguensis)	<i>Chlorophytum</i>	Cuttings	Singapore	United Kingdom	1
	<i>Chlorophytum</i>	Plants for planting	Singapore	United Kingdom	2
Meloidogyne enterolobii (=M. mayaguensis), Meloidogyne incognita	<i>Chlorophytum, Chlorophytum bichetii</i>	Plants for planting	Singapore	United Kingdom	1
Monilinia fructicola	<i>Prunus persica</i> var. <i>nucipersica</i>	Fruits	Australia	Switzerland	1
Nematoda	<i>Plumeria</i>	Plants for planting	Thailand	Switzerland	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Opogona sacchari</i>	<i>Dracaena marginata</i>	Plants for planting	(Germany)	Austria	1
<i>Paraleyrodes minei</i>	<i>Piper sarmentosum</i>	Plants for planting	Singapore	United Kingdom	1
<i>Pepino mosaic virus</i>	<i>Solanum lycopersicum</i>	Seeds	Italy	Malta	1
	<i>Solanum lycopersicum</i>	Fruits	Mongolia	Ireland	1
	<i>Solanum lycopersicum</i>	Fruits	Spain	Ireland	1
	<i>Solanum lycopersicum</i>	Fruits	Spain (Canary Isl.)	Ireland	2
	<i>Solanum lycopersicum</i>	Seeds	Vietnam	France	1
<i>Phytophthora ramorum</i>	<i>Rhododendron</i>	Plants for planting	Germany	Estonia	1
<i>Plum pox virus</i>	<i>Prunus armeniaca</i> , <i>Prunus cerasifera</i> , <i>Prunus domestica</i>	Plants for planting	Ukraine	Switzerland	1
<i>Potato spindle tuber viroid</i>	<i>Physalis</i>	Seeds	China	Germany	1
	<i>Solanum lycopersicum</i>	Seeds	China	Austria	1
<i>Pratylenchus</i>, <i>Trichodoridae</i>, <i>Tylenchorhynchus</i>	<i>Ilex crenata</i>	Plants for planting	Japan	Belgium	1
<i>Rhizoecus</i>	<i>Serissa</i>	Plants for planting	China	Netherlands	1
<i>Scirtothrips</i>	<i>Momordica charantia</i>	Vegetables	India	United Kingdom	1
<i>Scirtothrips dorsalis</i>	<i>Momordica</i>	Vegetables	Sri Lanka	United Kingdom	1
	<i>Momordica charantia</i>	Vegetables	Kenya	Sweden	1
<i>Scirtothrips dorsalis</i>, <i>Thrips palmi</i>	<i>Momordica charantia</i>	Vegetables	India	Sweden	1
<i>Spodoptera</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	India	United Kingdom	1
	<i>Rotala</i>	Plants for planting	Singapore	Netherlands	1
<i>Spodoptera littoralis</i>	<i>Eryngium</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Eustoma</i>	Cut flowers	Tanzania	Netherlands	1
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	8
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	3
	<i>Rosa</i>	Cut flowers	Zimbabwe	Netherlands	30
	<i>Solidago</i>	Cut flowers	Zambia	Netherlands	1
<i>Spodoptera litura</i>	<i>Ocimum</i>	Vegetables (leaves)	India	United Kingdom	2
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	Netherlands	1
	<i>Ocimum</i>	Vegetables (leaves)	Vietnam	Netherlands	1
	<i>Rosa</i>	Cut flowers	India	Netherlands	1
	Unspecified	Vegetables (leaves)	India	United Kingdom	1
	Unspecified	Plants for planting	Singapore	Netherlands	1
Thripidae	<i>Colocasia</i>	Vegetables (leaves)	Jamaica	United Kingdom	1
	<i>Dendrobium</i>	Cut flowers	Malaysia	United Kingdom	1
	<i>Momordica</i>	Vegetables	China	United Kingdom	1
	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	4
	<i>Momordica</i>	Vegetables	India	United Kingdom	13
	<i>Momordica</i>	Vegetables	Pakistan	United Kingdom	3
	<i>Momordica</i>	Vegetables	Sri Lanka	United Kingdom	5

Pest	Consignment	Type of commodity	Country of origin	Destination	nb	
Thripidae (cont.)	<i>Momordica</i>	Vegetables	Vietnam	United Kingdom	1	
	<i>Momordica charantia</i>	Vegetables	Sri Lanka	United Kingdom	2	
	<i>Momordica cochinchinensis</i>	Vegetables	India	United Kingdom	2	
	<i>Momordica, Psidium guajava</i>	Vegetables	Pakistan	United Kingdom	1	
	<i>Momordica, Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Momordica, Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	India	United Kingdom	1	
	Orchidaceae	Cut flowers	Malaysia	United Kingdom	1	
	Orchidaceae	Cut flowers	Thailand	United Kingdom	2	
	<i>Solanum</i>	Vegetables	Sri Lanka	United Kingdom	1	
	<i>Solanum melongena</i>	Vegetables	Bangladesh	United Kingdom	18	
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	7	
	<i>Solanum melongena</i>	Vegetables	India	United Kingdom	5	
	<i>Solanum melongena</i>	Vegetables	Pakistan	United Kingdom	6	
	<i>Trichosanthes</i>	Vegetables	Sri Lanka	United Kingdom	1	
	Thrips	<i>Momordica</i>	Vegetables	Pakistan	United Kingdom	1
		<i>Solanum melongena</i>	Vegetables	Bangladesh	United Kingdom	2
		<i>Solanum melongena</i>	Vegetables	Ghana	United Kingdom	1
Thrips palmi	<i>Dendrobium</i>	Cut flowers	Malaysia	Netherlands	5	
	<i>Dendrobium</i>	Cut flowers	Thailand	Austria	1	
	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	2	
	<i>Dendrobium</i>	Cut flowers	Thailand	United Kingdom	1	
	<i>Mangifera indica</i>	Fruits	Malaysia	Belgium	1	
	<i>Momordica</i>	Vegetables	India	United Kingdom	4	
	<i>Momordica</i>	Vegetables	Pakistan	United Kingdom	6	
	<i>Momordica</i>	Vegetables	Sri Lanka	United Kingdom	2	
	<i>Momordica balsamina</i>	Vegetables	Pakistan	Sweden	1	
	<i>Momordica charantia</i>	Vegetables	Bangladesh	Sweden	4	
	<i>Momordica charantia</i>	Vegetables	India	France	1	
	<i>Momordica charantia</i>	Vegetables	India	Sweden	2	
	<i>Momordica charantia</i>	Vegetables	India	United Kingdom	4	
	<i>Momordica charantia, Momordica cochinchinensis</i>	Vegetables	Bangladesh	Sweden	1	
	<i>Momordica cochinchinensis</i>	Vegetables	Bangladesh	United Kingdom	1	
	<i>Momordica, Solanum melongena</i>	Vegetables	India	United Kingdom	1	
	Orchidaceae	Cut flowers	Thailand	Austria	4	
	<i>Solanum melongena</i>	Vegetables	Bangladesh	Sweden	1	
	<i>Solanum melongena</i>	Vegetables	Bangladesh	United Kingdom	2	
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	Netherlands	2	
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	2	
	<i>Solanum melongena</i>	Vegetables	India	United Kingdom	1	
	<i>Solanum melongena</i>	Vegetables	Malaysia	Netherlands	1	
	<i>Solanum melongena</i>	Vegetables	Pakistan	United Kingdom	6	
	<i>Solanum melongena</i>	Vegetables	Surinam	Netherlands	1	
	Thysanoptera	<i>Dendrobium</i>	Cut flowers	Malaysia	Switzerland	1
<i>Dendrobium</i>		Cut flowers	Thailand	Switzerland	1	
<i>Momordica</i>		Vegetables	India	Switzerland	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Thysanoptera (cont.)	<i>Momordica</i>	Vegetables	Malaysia	Switzerland	1
	<i>Momordica</i>	Vegetables	Pakistan	Switzerland	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	France	3
	<i>Momordica charantia</i>	Vegetables	India	France	7
	<i>Momordica charantia</i>	Vegetables	Pakistan	Switzerland	2
	Orchidaceae	Cut flowers	Thailand	Switzerland	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	Switzerland	2
	<i>Solanum melongena</i>	Vegetables	India	Switzerland	2
	<i>Solanum melongena</i>	Vegetables	Malaysia	France	1
	<i>Solanum melongena</i>	Vegetables	Mauritius	France	1
	<i>Solanum melongena</i>	Vegetables	Sri Lanka	Switzerland	1
Tomato apical stunt viroid	<i>Brugmansia</i>	Plants for planting	Netherlands	Belgium	1
	<i>Solanum jasminoides</i>	Plants for planting	Germany	Belgium	1
	<i>Solanum jasminoides</i>	Plants for planting	Netherlands	Belgium	2
Tomato chlorotic dwarf viroid	<i>Solanum jasminoides</i>	Plants for planting	Italy	Belgium	1
Tomato spotted wilt virus	<i>Ranunculus</i>	Plants for planting	(Italy)	Austria	1
Tribolium	<i>Zea</i>	Stored products	Ghana	Spain	1
Trichodoridae, Xiphinema	<i>Taxus cuspidata</i>	Plants for planting	Japan	Belgium	1
Tylenchus, Xiphinema americanum	<i>Medicago sativa</i>	Seeds	Australia	Greece	1
Xanthomonas	<i>Citrus latifolia</i>	Fruits	Pakistan	United Kingdom	1
Xanthomonas axonopodis pv. citri	<i>Citrus latifolia</i>	Fruits	Pakistan	United Kingdom	8
Xanthomonas axonopodis pv. vesicatoria	<i>Capsicum annuum</i>	Seeds	India	Italy	1
	<i>Capsicum annuum</i>	Seeds	Japan	Italy	1
Xiphinema americanum	<i>Camellia, Cornus, Loropetalum chinense</i>	Cut flowers	Japan	Netherlands	1
	<i>Podocarpus macrophyllus</i>	Plants for planting	China	Netherlands	1

• Fruit flies

Pest	Consignment	Country of origin	Destination	nb
Anastrepha	<i>Chrysophyllum cainito</i>	Surinam	Netherlands	1
	<i>Mangifera</i>	Jamaica	United Kingdom	1
	<i>Mangifera indica</i>	Costa Rica	Netherlands	2
	<i>Mangifera indica</i>	Dominican Rep.	France	2
	<i>Mangifera indica</i>	Dominican Rep.	Netherlands	2
	<i>Mangifera indica</i>	Peru	France	2
	<i>Psidium guajava</i>	Dominican Rep.	Netherlands	1
Anastrepha obliqua	<i>Mangifera</i>	Dominican Rep.	United Kingdom	1
	<i>Mangifera indica</i>	Peru	France	1
Bactrocera	<i>Annona</i>	India	United Kingdom	1
	<i>Annona</i>	Pakistan	United Kingdom	2

Pest	Consignment	Country of origin	Destination	nb
Bactrocera (cont.)	<i>Litchi chinensis</i>	Thailand	Netherlands	1
	<i>Mangifera</i>	Sri Lanka	United Kingdom	1
	<i>Mangifera indica</i>	Ghana	United Kingdom	1
	<i>Momordica</i>	India	United Kingdom	1
	<i>Psidium</i>	Pakistan	United Kingdom	2
	<i>Psidium guajava</i>	Pakistan	United Kingdom	1
	<i>Psidium guajava</i>	Thailand	United Kingdom	1
Bactrocera correcta	<i>Psidium</i>	Thailand	United Kingdom	1
Bactrocera cucurbitae	<i>Momordica</i>	India	United Kingdom	1
	<i>Momordica</i>	Kenya	United Kingdom	1
	<i>Momordica</i>	Sri Lanka	United Kingdom	4
	<i>Momordica charantia</i>	India	United Kingdom	1
Bactrocera cucurbitae, Thrips palmi	<i>Momordica charantia</i>	India	Sweden	1
Bactrocera dorsalis	<i>Mangifera</i>	Sri Lanka	United Kingdom	3
	<i>Mangifera indica</i>	Cambodia	France	2
	<i>Mangifera indica</i>	Sri Lanka	United Kingdom	1
	<i>Mangifera indica</i>	Thailand	France	1
	<i>Mangifera indica</i>	Thailand	United Kingdom	1
	<i>Psidium guajava</i>	Sri Lanka	Germany	1
Bactrocera invadens	<i>Mangifera</i>	Ghana	United Kingdom	3
Bactrocera latifrons	<i>Capsicum annuum</i>	Jordan*	France	1
	<i>Capsicum frutescens</i>	Cambodia	France	1
Bactrocera zonata	<i>Psidium</i>	Pakistan	United Kingdom	1
	<i>Psidium guajava</i>	Pakistan	United Kingdom	1
	<i>Syzygium</i>	Thailand	United Kingdom	1
Ceratitis	<i>Capsicum annuum</i>	Uganda	United Kingdom	2
Ceratitis capitata	<i>Mangifera indica</i>	Peru	France	2
	<i>Psidium guajava</i>	Egypt	France	1
Dacus	<i>Momordica</i>	Kenya	United Kingdom	3
	<i>Momordica charantia</i>	Kenya	United Kingdom	2
Dacus ciliatus	<i>Momordica</i>	Kenya	United Kingdom	10
	<i>Momordica charantia</i>	Kenya	United Kingdom	2
Tephritidae (non-European)	<i>Capsicum frutescens</i>	Cambodia	France	4
	<i>Capsicum frutescens</i>	Malaysia	France	2
	<i>Citrullus fistulosus</i>	India	United Kingdom	1
	<i>Citrus</i>	Pakistan	Spain	1
	<i>Citrus unshiu</i>	South Africa	United Kingdom	3
	<i>Mangifera</i>	Brazil	Spain	1
	<i>Mangifera</i>	Brazil	United Kingdom	1
	<i>Mangifera</i>	Costa Rica	United Kingdom	1
	<i>Mangifera</i>	Dominican Rep.	United Kingdom	8
	<i>Mangifera</i>	Ghana	United Kingdom	12
	<i>Mangifera</i>	India	United Kingdom	3
	<i>Mangifera</i>	Jamaica	United Kingdom	7

Pest	Consignment	Country of origin	Destination	nb
Tephritidae (non-European)	<i>Mangifera</i>	Kenya	United Kingdom	2
	<i>Mangifera</i>	Sri Lanka	Switzerland	1
	<i>Mangifera</i>	Sri Lanka	United Kingdom	2
	<i>Mangifera indica</i>	Cameroon	Belgium	2
	<i>Mangifera indica</i>	Cameroon	France	1
	<i>Mangifera indica</i>	Côte d'Ivoire	Belgium	3
	<i>Mangifera indica</i>	Dominican Rep.	France	5
	<i>Mangifera indica</i>	Dominican Rep.	Netherlands	4
	<i>Mangifera indica</i>	Dominican Rep.	United Kingdom	1
	<i>Mangifera indica</i>	Ecuador	Spain	1
	<i>Mangifera indica</i>	Ghana	United Kingdom	3
	<i>Mangifera indica</i>	India	United Kingdom	1
	<i>Mangifera indica</i>	Jamaica	United Kingdom	1
	<i>Mangifera indica</i>	Peru	France	2
	<i>Mangifera indica</i>	Peru	Spain	1
	<i>Mangifera indica</i>	Philippines	United Kingdom	1
	<i>Mangifera indica</i>	Sri Lanka	United Kingdom	1
	<i>Mangifera indica</i>	Togo	Belgium	1
	<i>Manilkara zapota</i>	India	United Kingdom	1
	<i>Momordica</i>	Bangladesh	Italy	1
	<i>Momordica</i>	Cambodia	United Kingdom	1
	<i>Momordica</i>	Gambia	United Kingdom	2
	<i>Momordica</i>	India	United Kingdom	5
	<i>Momordica</i>	Kenya	United Kingdom	16
	<i>Momordica</i>	Oman	United Kingdom	2
	<i>Momordica</i>	Pakistan	Italy	1
	<i>Momordica</i>	Pakistan	United Kingdom	1
	<i>Momordica</i>	Sri Lanka	Italy	2
	<i>Momordica</i>	Sri Lanka	United Kingdom	6
	<i>Momordica</i>	Vietnam	United Kingdom	1
	<i>Momordica charantia</i>	India	United Kingdom	1
	<i>Momordica charantia</i>	Kenya	United Kingdom	2
	<i>Momordica charantia</i>	Oman	United Kingdom	1
	<i>Momordica charantia</i>	Philippines	Switzerland	1
	<i>Psidium</i>	Pakistan	Italy	1
	<i>Psidium</i>	Pakistan	United Kingdom	3
	<i>Psidium guajava</i>	Colombia	France	1
	<i>Psidium guajava</i>	Dominican Rep.	France	1
	<i>Psidium guajava</i>	Pakistan	United Kingdom	5
	<i>Psidium guajava</i>	Thailand	United Kingdom	5
	<i>Solanum melongena</i>	Cameroon	Belgium	1
	<i>Solanum melongena</i>	Malaysia	Belgium	1
<i>Syzygium</i>	Jamaica	United Kingdom	1	
<i>Syzygium</i>	Thailand	United Kingdom	4	
<i>Syzygium samarangense</i>	Thailand	France	1	
<i>Syzygium samarangense</i>	Thailand	Switzerland	1	
<i>Trichosanthes</i>	Bangladesh	United Kingdom	3	
<i>Trichosanthes</i>	Sri Lanka	United Kingdom	2	
<i>Trichosanthes cucumerina</i>	Bangladesh	United Kingdom	2	
<i>Trichosanthes cucumerina</i>	Sri Lanka	United Kingdom	7	

• Wood

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Acari	<i>Juglans</i>	Wood and bark	USA	Spain	1
Anoplophora	Unspecified	Wood packing material	China	Germany	4
Anoplophora glabripennis	Unspecified	Wood packing material	China	Germany	1
	Unspecified	Wood packing material (crates)	China	Germany	1
	Unspecified	Wood packing material (crates)	China	Netherlands	1
	Unspecified	Wood packing material	China	Switzerland	1
	Unspecified	Wood packing material (pallets)	China	Switzerland	1
Anoplophora glabripennis, Cerambycidae	Unspecified	Wood packing material	China	Germany	1
Apriona germarii	Unspecified	Wood packing material (crates)	China	Belgium	1
	Unspecified	Wood packing material	China	Netherlands	3
	Unspecified	Wood packing material (crates)	China	Netherlands	5
Apriona germarii, Elateridae	Unspecified	Wood packing material (crates)	China	Belgium	1
Bostrichidae	Unspecified	Wood packing material	Philippines	Belgium	1
	Unspecified	Wood packing material (pallets)	Vietnam	Netherlands	1
Bursaphelenchus	<i>Pinus</i>	Wood and bark	Portugal	Italy	1
Bursaphelenchus fungivorus, Cryptaphelenchus	Coniferae	Wood and bark	Portugal	Germany	1
Cerambycidae	Unspecified	Wood packing material (crates)	China	Belgium	1
	Unspecified	Wood packing material	China	Germany	2
	Unspecified	Wood packing material (pallets)	China	Germany	1
Cerambycidae: Prioninae	Unspecified	Wood packing material (crates)	China	Belgium	2
Coleoptera	<i>Entandrophragma cylindricum</i>	Wood and bark	Central African Rep.	Spain	1
Formica	<i>Juglans</i>	Wood and bark	USA	Spain	1
Heterobostrychus	Unspecified	Wood packing material	India	Germany	1
Monochamus	Unspecified	Wood packing material (crates)	China	Netherlands	1
	Unspecified	Wood packing material (crates)	China	Poland	1
	Unspecified	Wood and bark	Ukraine	Cyprus	1
Platypodidae	Unspecified	Wood packing material (pallets)	Sri Lanka	Germany	1
Platypodidae, Scolytidae	<i>Aucoumea klaineana</i>	Wood and bark	Equatorial Guinea	Spain	1
	<i>Entandrophragma candollei</i>	Wood and bark	Congo	Spain	1
	<i>Entandrophragma cylindricum</i>	Wood and bark	Congo	Spain	1
Scolytidae	<i>Erythrophleum</i>	Wood and bark	Congo	Spain	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Scolytidae (cont.)	<i>Guarea cedrata</i>	Wood and bark	Central African Rep.	Spain	1
	<i>Pterocarpus</i>	Wood and bark	Congo	Spain	1
	Unspecified	Wood packing material (pallets)	India	Spain	1
Sinoxylon	Unspecified	Wood packing material	India	Germany	1
	Unspecified	Wood packing material (crates)	India	Germany	2
	Unspecified	Wood packing material (pallets)	India	Germany	1
	Unspecified	Wood packing material	Indonesia	Belgium	1
	Unspecified	Wood packing material (pallets)	Malaysia	Netherlands	1
Trichoferus	Unspecified	Wood packing material (crates)	China	Belgium	1

• **Bonsais**

Pest	Consignment	Country of origin	Destination	nb
Criconematidae, Trichodorus	<i>Pinus pentaphylla</i>	Japan	Belgium	1
Nematoda	<i>Buxus, Camellia, Eugenia, Rhododendron molle</i>	China	France	1
	<i>Ficus</i>	China	France	1
	<i>Ficus, Ligustrum</i>	China	France	1
	<i>Ficus, Zelkova</i>	China	France	1
	<i>Potentilla fruticosa, Premna</i>	Japan	France	1
	<i>Sageretia thea, Serissa</i>	China	France	1
	<i>Serissa, Zanthoxylum</i>	China	France	1
Opogona sacchari	<i>Areca</i>	Netherlands	Belgium	1
Tylenchorhynchus	<i>Cryptomeria japonica,</i>	Japan	France	1
	Unspecified			

Source: EPPO Secretariat, 2012-05.

**2012/129 Symposium on the management of fruit flies in Near East countries
(Hammamet, TN, 2012-11-06/08)**

A Symposium on the management of fruit flies in the Near East (including North Africa) will be organized jointly by FAO, FAO-IAEA, NEPPPO, IOBC North Africa Commission, NPPO of Tunisia, and the Tunisian Association of Plant Protection in Hammamet, Tunisia from the 6th to 8th of November 2012. The official languages of the Symposium will be English and French (registration fee: 50 EUR).

The following themes will be addressed:

- Brief background, history and geographical distribution of fruit flies;
- Biology, ecology, life cycle, host preferences and nature of damage caused by fruit flies
- Detection and phytosanitary measures (pathways)
- Management strategies
 - Surveillance
 - Management by semiochemicals (mass trapping, bait stations)
 - Sanitation (good agricultural practices)
 - Sterile Insect Technique (SIT)
 - Male Annihilation Technique (MAT)
 - Chemical control (present status of available active substances)
- Response to outbreaks
- Problems outside the Near East region, especially in Africa, Asia and Southern Europe
- Round table: recommended Integrated Pest Management (IPM) strategies.

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Source: EPPO Secretariat (2012-06).

Additional key words: conference

2012/130 EPPO/NEPPO Workshop on Surveillance (Alger, 2012-09-18/20)

EPPO and NEPPO (Near East Plant Protection Organization) will organize an international Workshop on Surveillance on 2012-09-18/20 in Alger. ISPM 6 '*Guidelines for surveillance*' describes the components of survey and monitoring systems for the purpose of pest detection and the supply of information for use in pest risk analyses, the establishment of pest free areas and, where appropriate, the preparation of pest lists. The aim of this Workshop will be to exchange practical experience on how surveillance is performed in countries within the EPPO and NEPPO region.

The Workshop will include presentations of ISPM 6, ISPM 4 *Requirements for the establishment of pest free areas*, ISPM 8 *Determination of pest status in an area* as well as relevant EPPO Standards. Countries' experiences will also be presented and case studies on specific pests will be conducted in small groups. Presentations will focus on surveillance for the following crops: potato, and vegetable crops (in particular tomato), fruit trees (in particular *Citrus*), ornamental palms. A technical visit will also be organized.

This Workshop will provide an opportunity for participants to share their experiences on surveillance and pest reporting.

Participants can register online until 2012-07-31. For more information, consult the EPPO webpage:

http://archives.eppo.int/MEETINGS/2012_conferences/ISPM_Alger.htm

Source: EPPO Secretariat (2012-06).

Additional key words: conference, ISPMs

Computer codes: DZ

2012/131 A review of the impacts of invasive alien plants

One hundred and nineteen (119) scientific articles representing 1041 cases of invasion by 135 alien plant species were assembled to gather quantitative evidence from the literature on the ecological impacts of alien plants. The analysis of these publications highlighted the fact that alien plants significantly reduced the growth of resident plant species by 22%, and changed plant community structure by decreasing species' abundance (by 43.5%) and diversity (by 50.7%). Alien plants also significantly decreased animal species' abundance by 17%. The impact on plant species and communities were substantial whereas those on nutrient cycling were relatively minor. In addition, total community biomass production increased by 56.8% following invasion. This study also highlighted that there were no significant differences in the mean impacts on species and communities between studies conducted on islands and on the mainland.

The analysis therefore provides rigorous evidence that alien plants species exert significant impacts on many ecological variables.

Source: Vilà M, Espinar JL, Hejda M, Hulme PE, Jarošík V, Maron JL, Pergl J, Schaffner U, Sun Y & Pyšek P (2011) Ecological impacts of invasive alien plants: a meta-analysis of their effects on species, communities and ecosystems. *Ecology letters* **14**, 702-708.

Additional key words: invasive alien plants, impacts

2012/132 Some biofuel crops used in Hungary

A preliminary list of alien biofuel species used in Europe had been assembled in 2001 by Fogarassy and included the following species: *Arundo donax* (Poaceae), *Carthamus tinctorius* (Asteraceae), *Helianthus tuberosus* (Asteraceae, EPPO List of IAP), *Hibiscus cannabinus* (Malvaceae), *Miscanthus sinensis* (Poaceae, EPPO Alert List) and *Silphium perfoliatum* (Asteraceae).

In Hungary, the following alien species are known to be planted as biofuels: *Arundo donax*, *Miscanthus sinensis*, *Sida hermaphrodita* (Malvaceae) and *Silphium perfoliatum*. *Silphium perfoliatum* originates from North America where it is considered invasive in some US States and should be usefully given some attention as a potential invasive alien plant.

Source: Fogarassy C (2001) Energy crops on arable lands. SZIE GTK, European Studies Center, 7-139. (in Hungarian).

Solymosi P (2012) Changes in the range of energy plant species grown in Hungary. *Növényvédelem* **48**, 37-38 (in Hungarian).

Additional key words: invasive alien plants, biofuel crops

Computer codes: ABKDO, CAUTI, HELTU, HIBCA, MISSI, SIPPE, HU

2012/133 First report of *Conyza sumatrensis* in Romania

Conyza sumatrensis (Asteraceae) is native from South America and is now known as a very widespread species worldwide. In Europe, it was recorded for the first time in 1875 as an escapee from the botanical garden of Collioure in France (Pyrénées Orientales). The species is widespread in the Western and Southern parts of Europe. In Romania, the species is now recorded in the Dobrogea region, inside and close to the Constanța harbour, at the oil

terminal, where approximately 400 individual plants were observed in July 2009. It is supposed that the species was involuntarily introduced by ships. Rapid spread of this species is expected in Romania if no actions are taken, however eradication measures could still eliminate the species from the country. In the countries neighbouring Romania, *C. sumatrensis* has been recorded in Serbia and in Bulgaria.

Source: Anastasiu P & Memedemin D (2012) *Conyza sumatrensis*: a new alien plant in Romania. *Botanica serbica* **36**, 37-40.
http://botanicaserbica.bio.bg.ac.rs/arkiva/pdf/2012_36_1_551_full.pdf

Additional key words: invasive alien plants, new record

Computer codes: ERISU, RO

2012/134 *Anredera cordifolia* naturalized in Croatia

Anredera cordifolia (Basellaceae) or Madeira vine is a perennial climbing vine originating from South America. It has been introduced as an ornamental plant in Australia, Costa Rica, Fiji, Guatemala, Hawaii, Honduras, Mexico, New Zealand, Puerto Rico, South Africa, Southern North America, Sénégal, Swaziland and is recorded as invasive where it has been introduced. In Europe, *A. cordifolia* is established in France (including Corse), Greece, Italy (including Sicilia), Portugal (including Azores and Madeira) and Spain (Balears).

In Croatia, *A. cordifolia* was previously only mentioned as an ornamental plant grown in gardens and parks but was not recorded as established. It was observed in autumn in 2006 and again in 2007 and 2008 in Bacina in Southern Croatia, in a ruderal habitat between two roads. *A. cordifolia* is considered to have established in this locality, but is still of very limited distribution. At present, it does not seem to represent a threat to the wild flora. However, because *A. cordifolia* has been reported to be invasive in certain cases, it seems useful to carry out a survey to determine whether it is found elsewhere in Croatia.

Source: DAISIE (2012) *Anredera cordifolia*.
www.europe-aliens.org

Global Invasive Species Database (GISD)
<http://www.issg.org/database/species/ecology.asp?si=776&fr=1&sts=sss&lang=EN>

Stan V & Mihel D (2010) *Anredera cordifolia* (Ten.) Steenis (Basellaceae), naturalized in South Croatia. *Natura Croatica* **19**(1), 273-279.

Additional key words: invasive alien plants, new record

Computer codes: BOGCO, HR

2012/135 A new project for the use of indigenous plant species in Reunion Island (FR)

A new project has recently been launched by the Conservatoire Botanique National de Mascarin in Reunion Island on how to encourage the use of ornamental indigenous plants instead of invasive alien ones. The project will last for 24 months and involve the following partners: horticulture professionals (plant producers, landscapers, etc.), staff from the municipalities, managers of natural areas, teachers and trainers. The project is divided in two steps:

- To provide the horticulture industry with information on how to produce 152 indigenous species to be sold for use in the urban and peri-urban areas. A charter

should be elaborated for the use of indigenous species, including a labeling procedure to indicate that the species is indigenous.

- To develop a web forum to raise awareness on flora and habitats conservation in Reunion Island; and to establish a seed bank of indigenous species, in particular by maintaining a collection of species in arboreta.

Source: Conservatoire Botanique National de Mascarin, Centre Permanent d’Initiatives pour l’Environnement (2011) Démarche Aménagement Urbain et Plantes Indigènes (DAUPI), 45 pp.

Personnal communication with Christophe Lavergne, Conservatoire Botanique National de Mascarin, E-mail : clavergne@cbnm.org

Additional key words: invasive alien plants, substitution plants

Computer codes: RE

2012/136 New EPPO lists of invasive alien plants

The EPPO webpages on invasive alien plants have been revised in order to provide updated lists of invasive alien plants and information on all the latest initiatives (e.g. on the Code of conduct on horticulture and invasive alien plants).

The procedure to list invasive alien plants has been standardized. The EPPO Panel on Invasive Alien Species developed the EPPO prioritization process for invasive alien plants, and assessed all invasive alien plants listed in the EPPO system (i.e. in the previously existing EPPO Lists) through this process. This prioritization process is designed (i) to produce a list of invasive alien plants that are established or could potentially establish in the EPPO region, and (ii) to determine which of these have the highest priority for an EPPO Pest Risk Analysis.

Following this procedure, when a new species is identified as a potential threat for the EPPO region (already present in the EPPO region or absent) by a member country or by the EPPO Secretariat, this species is documented through a mini datasheet which is published in the EPPO Reporting Service and is included on the EPPO Alert List. The following table provides the species included in the EPPO Alert List as of June 2012, with their family and date of addition:

Species	Family	Date of addition to the Alert list
<i>Andropogon virginicus</i>	Poaceae	2011
<i>Asparagus asparagoides</i>	Asparagaceae	2012
<i>Limnophila sessiliflora</i>	Plantaginaceae	2012
<i>Miscanthus sinensis</i>	Poaceae	2011
<i>Parthenium hysterophorus</i>	Asteraceae	2011

Each species of the Alert List is then assessed individually through the EPPO prioritization process for invasive alien plants. The process examines whether the species is alien in the area under study, and whether it is established or not. The spread potential, the potential negative impacts on native species, habitats and ecosystems, as well as on agriculture, horticulture or forestry are considered as well.

If there is not enough information on the species or if the impacts it poses are not high, the species (present or absent from the EPPO region) is then registered on the Observation List.

This Observation List was created in 2012. Inclusion of a species into this list is not definitive. Changes can be made when additional information is recorded, particularly when information on invasiveness becomes available, or when a significant change in the invasive behaviour of a plant is observed. The following table provides the species included in the EPPO Observation list as of June 2012, with their family and date of addition:

Species	Family	Date of addition to the Observation List
<i>Akebia quinata</i>	Lardizabalaceae	2012
<i>Araujia sericifera</i>	Asclepiadoideae	2012
<i>Azolla filiculoides</i>	Salviniaceae	2012
<i>Bidens frondosa</i>	Asteraceae	2012
<i>Cenchrus incertus</i>	Poaceae	2012
<i>Eragrostis curvula</i>	Poaceae	2012
<i>Eriochloa villosa</i>	Poaceae	2012
<i>Gymnocoronis spilanthoides</i>	Asteraceae	2012
<i>Lupinus polyphyllus</i>	Fabaceae	2012
<i>Lysichiton americanus</i> (A2 in 2005 - deleted in 2009)	Araceae	2012
<i>Rhododendron ponticum</i>	Ericaceae	2012
<i>Sesbania punicea</i>	Fabaceae	2012
<i>Solidago nemoralis</i>	Asteraceae	2012
<i>Stipa trichotoma</i> , <i>S. neesiana</i> and <i>S. tenuissima</i>	Poaceae	2012
<i>Verbesina encelioides</i>	Asteraceae	2012

If the species assessed is determined to have a high spread potential and has a high impact on native species, habitats and ecosystems, or on agriculture, horticulture and forestry, the species is then registered on the EPPO List of Invasive Alien Plants. The species registered on the List of Invasive Alien Plants have also been assessed through the second step of the EPPO prioritization process designed to determine whether the species represents a priority for Pest Risk Analysis. The following table provides the species included in the EPPO List of Invasive Alien Plants as of June 2012, with their family, date of addition and level of priority for Pest Risk Analysis (PRA):

Species	Family	Date of addition to the List of IAP	Priority for PRA
<i>Acacia dealbata</i>	Fabaceae	2006	Priority
<i>Acroptilon repens</i>	Asteraceae	2005	Lower priority
<i>Ailanthus altissima</i>	Simaroubaceae	2004	Not a priority
<i>Alternanthera philoxeroides</i>	Amaranthaceae	2012	Priority
<i>Ambrosia artemisiifolia</i>	Asteraceae	2004	Lower priority
<i>Amelanchier spicata</i>	Rosaceae	2004	Lower priority
<i>Amorpha fruticosa</i>	Fabaceae	2006	Lower priority
<i>Baccharis halimifolia</i>	Asteraceae	2006	Priority
<i>Buddleia davidii</i>	Scrophulariaceae	2006	Lower priority
<i>Cabomba caroliniana</i>	Cabombaceae	2006	PRA available
<i>Carpobrotus acinaciformis</i>	Aizoaceae	2006	Not a priority
<i>Carpobrotus edulis</i>	Aizoaceae	2006	Not a priority
<i>Cornus sericea</i>	Cornaceae	2012	Lower priority
<i>Cortaderia selloana</i>	Poaceae	2006	Lower priority
<i>Delairea odorata</i>	Asteraceae	2012	Lower priority
<i>Cyperus esculentus</i>	Cyperaceae	2004	Not a priority
<i>Egeria densa</i>	Hydrocharitaceae	2005	Lower priority

Species	Family	Date of addition to the List of IAP	Priority for PRA
<i>Elodea nuttallii</i>	Hydrocharitaceae	2004	Not a priority
<i>Fallopia baldschuanica</i>	Polygonaceae	2012	Lower priority
<i>Fallopia japonica</i>	Polygonaceae	2004	Not a priority
<i>Fallopia sachalinensis</i>	Polygonaceae	2004	Not a priority
<i>Fallopia x bohemica</i>	Polygonaceae	2004	Not a priority
<i>Hakea sericea</i>	Proteaceae	2012	Priority
<i>Helianthus tuberosus</i>	Asteraceae	2004	Not a priority
<i>Heracleum mantegazzianum</i>	Apiaceae	2004	Not a priority
<i>Humulus japonicus</i>	Cannabaceae	2012	Priority
<i>Hydrilla verticillata</i>	Hydrocharitaceae	2012	Priority
<i>Impatiens glandulifera</i>	Balsaminaceae	2004	Not a priority
<i>Lagarosiphon major</i>	Hydrocharitaceae	2004	Priority
<i>Microstegium vimineum</i>	Poaceae	2012	Priority
<i>Myriophyllum aquaticum</i>	Haloragaceae	2004	Lower priority
<i>Myriophyllum heterophyllum</i>	Haloragaceae	2012	Priority
<i>Oxalis pes-caprae</i>	Oxalidaceae	2006	Not a priority
<i>Paspalum distichum</i>	Poaceae	2004	Not a priority
<i>Pennisetum setaceum</i>	Poaceae	2012	Priority
<i>Pistia stratiotes</i>	Araceae	2012	Priority
<i>Prunus serotina</i>	Rosaceae	2004	Not a priority
<i>Salvinia molesta</i>	Salviniaceae	2012	Priority
<i>Senecio inaequidens</i>	Asteraceae	2004	PRA available
<i>Sicyos angulatus</i>	Cucurbitaceae	2005	PRA available
<i>Solidago canadensis</i>	Asteraceae	2004	Not a priority
<i>Solidago gigantea</i>	Asteraceae	2004	Not a priority

Selected species are then the object of a Pest Risk Analysis when the resources allow this. If the Pest Risk Analysis determines that the species represents a risk, the plant is then recommended for regulation and registered on the A1 or A2 EPPO Lists, as is the case of the following species:

Species	Family	Date of addition to the A1/A2 List
<i>Crassula helmsii</i>	Crassulaceae	A2 in 2006
<i>Eichhornia crassipes</i>	Pontederiaceae	A2 in 2008
<i>Heracleum persicum</i>	Apiaceae	A2 in 2009
<i>Heracleum sosnowskyi</i>	Apiaceae	A2 in 2009
<i>Hydrocotyle ranunculoides</i>	Apiaceae	A2 in 2005
<i>Ludwigia peploides</i> & <i>L. grandiflora</i>	Onagraceae	A2 in 2011
<i>Polygonum perfoliatum</i>	Polygonaceae	A2 in 2008
<i>Pueraria lobata</i>	Fabaceae	A2 in 2006
<i>Solanum elaeagnifolium</i>	Solanaceae	A2 in 2006

Source: EPP0 Website
http://www.eppo.int/INVASIVE_PLANTS/ias_plants.htm

Brunel S, Branquart E, Fried G, van Valkenburg J, Brundu G, Starfinger U, Buholzer S, Uludag A, Joseffson M & Baker R (2010) The EPP0 prioritization process for invasive alien plants. *Bulletin OEPP/EPP0 Bulletin* 40, 407-422

Additional key words: invasive alien plants, lists

Computer codes: ACADA, AILAL, AJASE, AKEQI, ALRPH, AMBEL, AMESP, AMHFR, ANOVI, ASPAS, AZOFI, BACHA, BIDFR, BIKBA, BUDDA, CABCA, CBSAC, CBSED, CCHPA, CDTSE, CENRE, CRWSR, CSBHE, CYPES, EICCR, ELDDDE, ELDNU, ERACU, ERBVI, GYNSP, HELTU, HERMZ, HERPE, HERSO, HUMJA, HKASE, HYDRA, HYLVE, IPAGL, LIOSE, LGAMA, LSYAM, LUDPE, LUDUR, LUPPO, MCGVI, MISSI, MYPBR, MYPHE, OXAPC, PASDS, PESSA, PIIST, POLCU, POLPF, PRNSO, PTNHY, PUELO, REYBO, REYSA, RHOPO, SAVMO, SEBPU, SENIQ, SENMI, SIYAN, SOLEL, SOOCA, SOOGI, SOONE, STDNE, STDTN, STDTR, VEEEN

2012/137 The effects of water level variation on the growth of *Myriophyllum aquaticum*

Myriophyllum aquaticum (Haloragaceae, EPP0 List of Invasive Alien Plants) is not typically a weed problem as water level increases, despite its submersed leaf form. As little data exists describing basic biological and ecological mechanisms affecting the development of this species, a study to quantify changes in *M. aquaticum* growth as water level increases was conducted. *M. aquaticum* was subjected to different water levels from 0 to 137 cm deep and one flood duration of 12 weeks. It appeared that *M. aquaticum* was negatively affected as water levels increased, with the exception of submersed shoot biomass that increased at intermediate water levels. The plant responded quickly to immersion, by changing leaf morphology. However, plants in deeper water levels were unable to grow to the water surface and to start an emergent growth.

The data suggest that this species does not grow well under sustained deep flood conditions and that *M. aquaticum* is rather limited to shallow areas where fragments can root and plants can grow rapidly to the water surface and establish an emergent canopy.

Source: Wersal RM & Madsen JD (2011) Comparative effects of water level variations on growth characteristics of *Myriophyllum aquaticum*. *Weed Research* 51, 386-393.

Additional key words: invasive alien plants, management

Computer codes: MYPBR