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2007/145 First report of *Erwinia amylovora* in Latvia

The NPPO of Latvia recently informed the EPPO Secretariat of the first finding of *Erwinia amylovora* (EPPO A2 List) on its territory in 2007. Following the first discovery of the disease, the NPPO performed surveys across the whole of Latvia. Approximately 2000 inspections were carried out and 700 symptomatic samples were collected. At present, 7 outbreaks of fireblight have been identified in 4 districts: 6 outbreaks in Zemgale region (Bauska, Dobele and Jelgava districts), 1 outbreak in Vidusdaugava region (Jēkabpils district). Fireblight was found on *Malus, Pyrus* and *Crataegus* plants, mainly in private gardens but also in 4 commercial orchards and 1 research centre. Phytosanitary measures are being taken to eradicate the disease by destroying infected plants and surrounding host plants. Further investigations are being made.
The status of *Erwinia amylovora* in Latvia is officially declared as follows: **Present, under eradication.**

Source: NPPO of Latvia, 2007-08.

Additional key words: first record **Computer codes:** ERWIAM, LV

2007/146 Incursion of *Diabrotica virgifera virgifera* in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the first incursions of *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae – EPPO A2 List) in Baden-Württemberg and Bayern. On 2007-07-03, a male adult of *D. virgifera virgifera* was caught for the first time in a pheromone trap near the airport of Lahr (South-West of Baden-Württemberg) and in total 6 beetles were later caught in this area. On 2007-08-14 and 08-16, a total of 4 adults were trapped in a maize field close to a harbour along the Danube river next to Passau (Bayern), and on 2007-08-17, one specimen was trapped in the close vicinity of the airport of Munich (Bayern). On 2007-08-22, 19 adults were caught at Salem-Rickenbach (Lake of Constance, Baden-Württemberg). In all areas concerned, measures have been taken according to Commission Decision 2006/564/EC* and according to the German Guideline for Official Measures against *D. virgifera virgifera* in order to eradicate the infestations.
The status of *Diabrotica virgifera virgifera* in Germany is officially declared as follows: **Transient; actionable, under eradication**.

*** Commission Decision 2006/564/EC** of 11 August 2006 amending Decision 2003/766/EC on emergency measures to prevent the spread within the Community of *Diabrotica virgifera* Le Conte.
http://www.eppo.org/ABOUT_EPPO/EPPO_MEMBERS/phytoreg/eu_texts/2006-564-EC-e.pdf

Source: NPPO of Germany, 2007-09.

Additional key words: new record **Computer codes:** DIABVI, DE

2007/147 Incursion of *Neotoxoptera formosana* in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the first incursion of *Neotoxoptera formosana* (Homoptera: Aphididae – formerly EPPO Alert List) in Germany (Baden-Württemberg). In August 2007, close to Heilbronn (Baden-Württemberg), *N. formosana* occurred at high density in two fields of *Allium schoenoprasum* (chives) for consumption. Within the 14 days that followed the first discovery of the infestation, all plants were destroyed. The origin of the infestation is not known. The infestation thus far, is being controlled by chemical treatment. Pictures were kindly provided by the NPPO of Germany and can be viewed on the Internet:
http://photos.eppo.org/index.php/album/93-neotoxoptera-formosana
The status of *Neotoxoptera formosana* in Germany is officially declared as follows: **Local incursion; actionable, under eradication.**

Source: NPPO of Germany, 2007-09.

Additional key words: new record **Computer codes:** NEOTFO, DE

2007/148 First outbreak of *Rhagoletis cingulata* in Slovenia

The NPPO of Slovenia recently informed the EPPO Secretariat of the first record of *Rhagoletis cingulata* (Diptera: Tephritidae – EPPO A2 List) on its territory. During a survey in June 2007, 276 specimens were caught on yellow sticky traps in sour cherry orchards (*Prunus cerasus*) in a rather small production area near the villages Lahonci, Desnjak and Savci (eastern Slovenia). A single specimen was also caught near the village of Radmožanci, close to the Slovene-Hungarian border. The identification of the pest was done by the officially approved laboratory of the Regional Agricultural Institute in Nova Gorica. The origin of the introduction of *R. cingulata* into Slovenia remains unknown, but the most plausible pathways are via the transport of infested fruits and the natural spread of the fruit fly within Europe*. After these first positive results, the monitoring will be intensified in 2008 to determine the extent of the infestation in Slovenia.
The status of *Rhagoletis cingulata* in Slovenia is officially declared as follows: **Present, at low prevalence in eastern part of Slovenia.**

* In the EPPO region, the presence of *R. cingulata* has also been reported from: Germany, Hungary, Italy (Ticino), Netherlands, Switzerland (see EPPO RS 2004/087, 2006/003, and 2007/107).

Source: NPPO of Slovenia, 2007-07.

Additional key words: new record **Computer codes:** RHAGCI, SI

2007/149 First outbreak of *Potato spindle tuber viroid* on ornamental Solanaceae in Slovenia

The NPPO of Slovenia recently informed the EPPO Secretariat of the first record of *Potato spindle tuber viroid* (*Pospiviroid*, PSTVd – EPPO A2 List) on its territory. After the detection of PSTVd in ornamental plants notified by the Dutch NPPO (see also EPPO RS 2006/142), a follow-up inspection was done at a Slovenian place of production in October 2006 and one plant of *Brugmansia cordata* (Solanaceae) was found positive. During a monitoring survey,

9 samples of *Solanum jasminoides* also tested positive in December 2006. An official survey was imposed in 2007, and as a result 29 samples of *S. jasminoides* and 1 sample of *Solanum rantonnettii* were found positive at different places of production. The identification of PSTVd was done by the officially approved virological laboratory of the Agricultural Institute of Slovenia. A two step RT-PCR test was used according to the EPPO Diagnostic protocol (EPPO Standard PM7/33(1)). In 2006, all PCR products were sequenced, but afterwards only one sample of *S. rantonnettii* and several randomly selected samples of S. *jasminoides* were sequenced. Sequence analyses confirmed the presence of PSTVd. The infection in *Brugmansia cordata* was also confirmed by the laboratory of the Dutch NPPO. Since in ornamental plants PSTVd infection is symptomless, all registered producers were inspected in spring 2007. Samples were taken from finished pot plants and their mother plants. Eradication measures were imposed: all infected lots and their mother plants were destroyed. Mother plants had been imported in different years: 2000, 2002, 2003 and 2006, and studies are being done to trace the origin of the PSTVd outbreak.
The status of *Potato spindle tuber viroid* in Slovenia is officially declared as follows: **Present, only in protected cultivation where host plants are grown, under eradication.**

Source: NPPO of Slovenia, 2007-07.

Additional key words: new record **Computer codes:** PSTVD0, SI

2007/150 New records of *Bactrocera invadens, B. zonata* and other fruit fly species in Bhutan

A survey on *Bactrocera* and *Dacus* species (Diptera: Tephritidae) was conducted in Bhutan from 2000 to 2005. 24 *Bactrocera* and 5 *Dacus* species (including pest and non-pest species) were identified in Bhutan. Two new species, *Dacus dorjii* and *D. fletcherii*, were described but these are not plant pests. During this survey, several fruit flies were reported for the first time in Bhutan, in particular *Bactrocera invadens* and *B. zonata*.

Pest species which are reported for the first time in Bhutan:
Bactrocera correcta
Bactrocera invadens (EPPO Alert List)
Bactrocera tau
Bactrocera zonata (EPPO A1 List)

Other pest species found:
Bactrocera cucurbitae (EPPO A1 List)
Bactrocera dorsalis (EPPO A1 List)
Bactrocera minax (EPPO A1 List): Drew *et al*. (2007) do not mention this as a new record, but the EPPO Secretariat had no previous records of its occurrence in Bhutan.
Dacus longicornis (considered as a minor pest).

Source: Drew RAI, Romig MC, Dorji C (2007) Records of Dacine fruit flies and new species of *Dacus* (Diptera: Tephritidae) in Bhutan. *The Raffles Bulletin of Zoology* **55**(1), 1-21. http://rmbr.nus.edu.sg/rbz/biblio/55/55rbz1-21.pdf
NAPPO Phytosanitary Alert System. Pest Alert (2007-09-06). Update on the distribution of *Bactrocera invadens* – First find in Bhutan. http://www.pestalert.org/viewNewsAlert.cfm?naid=48

Additional key words: new records **Computer codes:** BACTIN, DACUCT, DACUCU, DACUDO, DACUZO, BT

2007/151 *Blastopsylla occidentalis, Leptocybe invasa* and *Ophelimus maskelli:* three new pests of eucalyptus in Turkey

Since 2000, three new pests of eucalyptus trees have been found in Turkey.

Blastopsylla occidentalis (Homoptera: Psyllidae) was found for the first time in 2004, in the Tarsus-Karabucak eucalyptus forest in the province of Mersin (Mediterranean region). Surveys were carried out from 2004 to 2007 in the Mediterranean and Aegean costal regions. So far, *B. occidentalis* has only been found in the province of Mersin on *Eucalyptus camaldulensis* and *E. grandis*. This is the first report of *B. occidentalis* in Turkey. It can be recalled that *B. occidentalis* has also been found recently in Campania, Italy (EPPO RS 2006/187).

Leptocybe invasa (Hymenoptera: Eulophidae – EPPO Alert List) was first found in Turkey in 2000 causing leaf galls on *E. camaldulensis*. In Turkish conditions, *L. invasa* has two or three overlapping generations per year and mainly attacks *E. camaldulensis* and *E. grandis*. Nursery seedlings and young plantations are more severely affected than old plantations. The pest distribution was studied in detail from 2005 to 2006, and it was found that *L. invasa* is widespread in the Mediterranean and Aegean coastal regions of Turkey.

Ophelimus maskelli (Hymenoptera: Eulophidae) was first found in 2004. It was found only on *E. camaldulensis* at several locations in the Mediterranean (Antalya, Adana, Mersin) and Aegean (Muğla) coastal regions. This is the first report of *O. maskelli* in Turkey.
Pictures of damage caused by *O. maskelli* have been kindly provided by Dr Aytar (TR) and can be viewed on the Internet: http://photos.eppo.org/index.php/album/54-ophelimus-maskelli

Source: Aytar F (2007) Description, distribution and hosts of *Blastopsylla occidentalis* (Homoptera: Psyllidae), a new pest of *Eucalyptus* spp. in Turkey. Poster presented at the 2nd Plant Protection Congress of Turkey, Isparta (TR), 2007-08-27/29.

Aytar F (2006) Natural history, distribution and hosts of *Eucalyptus* gall wasps in Turkey. Poster presented at the VIIIth European Congress of Entomology, Izmir (TR), 2006-09-17/22.
http://www.geocities.com/fatihaytar/publ/2006/L_invasa_and_O_maskelli.pdf

Personal communication with Dr Fatih Aytar, Forestry Research Institute, Tarsus-Mersin, Turkey (2007-08).

Additional key words: detailed record, new record **Computer codes:** BLSPOC, LPCYIN, OPHESP, TR

2007/152 *Brevipalpus californicus* does not occur in France

The NPPO of France confirmed that *Brevipalpus californicus* (Acari: Tenuipalpidae), vector of Citrus leprosis virus, does not occur in France. The record was based on an erroneous translation in the American literature (Pritchard and Baker, 1958) of a French publication from André (1953) which in fact stated the absence of the pest and not its presence.
The status of *Brevipalpus californicus* in France is officially declared as follows: **Absent, invalid record.**

Source: André M (1953) Acariens phytoptipalpidae parasites des orchidées, cactées et plantes grasses cultivées en serres (suite). II – *Brevipalpus cactorum* Oud. et *B. confusus* Baker. *Bulletin du Muséum National d'Histoire Naturelle* (série 2) **25**(6), 563-571.

Pritchard AE, Baker EW (1958) The false spider mite (Acarina: Tenuipalpidae). *University of California Publications Entomology* **14**, 216-217.

Additional key words: denied record **Computer codes:** BRVPAU, FR

2007/153 *Phakopsora euvitis* eradicated from Australia

In 2001, *Phakopsora euvitis* (EPPO Alert List) was reported for the first time in Australia near Darwin, Northern Territory (EPPO RS 2002/031). An eradication programme was initiated, annual surveys were carried out and all infected plants destroyed. In July 2007, the Department of Primary Industry, Fisheries and Mines officially declared that the Northern Territory was free from *P. euvitis* and considered that the disease was eradicated.
The situation of *Phakopsora euvitis* in Australia can be described as follows: **Absent, first reported in 2001 in Northern Territory, eradicated in 2007.**

Source: Department of Primary Industry, Fisheries and Mines of Northern Territory (AU). Successful eradication of grapevine leaf rust (2007-07-13). http://www.nt.gov.au/dcm/ocm/media/index.cfm?fuseaction=viewRelease&id=2754&d=5

ProMED posting of 2007-07-13. Leaf rust, grapevine – Australia (Northern Territory): eradication. http://www.promedmail.org

Additional key words: eradication **Computer codes:** PHALLAM, AU

2007/154 First record of *Glomerella acutata* on *Lupinus luteus* in Lithuania

In 2001, *Glomerella acutata* (anamorph *Colletotrichum acutatum* – EU Annexes) was identified for the first time in Lithuania on *Lupinus luteus*. The fungus was found at 2 localities (infecting 2 ha and 4 ha in the Ukmergė and Utena municipalities, respectively). In affected plots, the disease spread was very rapid and caused the death of the crop within 2 weeks. However, the fungus was not detected on strawberry or other crops in Lithuania.

The situation of *Glomerella acutata* in Lithuania can be described as follows: **Present, first found in 2001 in two municipalities (Ukmergė, Utena), only on *Lupinus luteus*.**

Source: Jovaišienė Z, Taluntytė L (2002) *Colletotrichum acutatum* – New fungus species in Lithuania. *Botanica Lithuanica* **8**(4), 391-394.

Additional key words: new record **Computer codes:** COLLAC, LT

2007/155 *Glomerella acutata* found on strawberry in China

In 2004, strawberry fruits (*Fragaria x ananassa* cv. 'Mei') showing dark and sunken necrotic lesions were observed in a field in Shanghai, China. The cause was identified as *Glomerella acutata* (anamorph *Colletotrichum acutatum* – EU Annexes). According to the authors, this is the first time that *G. acutata* causing anthracnose fruit rot of strawberry has been reported in China.

Source: Dai FM, Ren XJ, Lu JP (2006) First report of anthracnose fruit rot of strawberry caused by *Colletotrichum acutatum* in China. *Plant Disease* **90**(11), p 1460.

Additional key words: detailed record **Computer codes:** COLLAC, CN

2007/156 Situation of *Globodera rostochiensis* and *G. pallida* in Canada

In Canada, based on decades of soil surveys, the presence of *Globodera rostochiensis* (EPPO A2 List) has only been detected in Newfoundland and in a small area (Saanich) of Vancouver Island (British Columbia). *Globodera pallida* (EPPO A2 List) is only present in a small area of Newfoundland. Both nematode species are quarantine pests in Canada and are subjected to strict official control measures. In August 2006, *G. rostochiensis* was detected in Quebec and surveys were implemented to delimit the extent of the infestation. Approximately 50 000 soil samples were collected from Quebec and other areas of Canada. As a result, few infestations were detected in the municipality of Saint-Amable, as well as in portions of the municipalities of Sainte-Julie, Saint-Marc-sur-Richelieu and Saint-Mathieu-de-Beloeil. A total area of 4 750 ha, including 2 000 ha of agricultural land is being regulated in Quebec.
The situation of *Globodera rostochiensis* in Canada can be described as follows: **Present, only in some areas (Vancouver Island in British Columbia, Newfoundland, Quebec), under official control.**
The situation of *Globodera pallida* in Canada can be described as follows: **Present, only in some areas (Newfoundland), under official control.**

Source: NAPPO Phytosanitary Alert System. Official Pest Reports (2007-09-11). Golden nematode (*Globodera rostochiensis* (Wollenweber) Behrens) – Update on the Canadian situation. http://www.pestalert.org/oprDetail.cfm?oprID=280

Additional key words: detailed record **Computer codes:** HETDRO, CA

2007/157 First report of *Cucumber vein yellowing virus* in Iran

During a survey conducted in July 2002 in cucurbit-growing areas in southern Iran, symptoms resembling those of *Cucumber vein yellowing virus* (*Ipomovirus,* CVYV – EPPO A2 List) were observed on a cucumber (*Cucumis sativus*) plant near Jiroft, (Kerman Province). Laboratory tests (indicator plants, IEM, RT-PCR) confirmed the presence of the virus. Additional leaf samples were collected from watermelons (*Citrullus lanatus*, 6 samples) and melons (*Cucumis melo*, 4 samples) growing on the same farm and CVYV was detected in all of them. This is the first report of CVYV in Iran. However, it is felt that more studies should be conducted in the southern regions of Iran, where *Bemisia tabaci* (vector of CVYV) is abundant, to better estimate the extent and incidence of the disease in cucurbit crops.
The situation of *Cucumber vein yellowing virus* in Iran can be described as follows: **Present, first found in 2002 on a few cucurbit plants in the Province of Kerman (south).**

Source: Bananej K, Desbiez C, Girard M, Wipf-Scheibel C, Vahdat I, Kheyr-Pour A, Ahoonmanesh A, Lecoq H (2006) First report of *Cucumber vein yellowing virus* on cucumber, melon and watermelon in Iran. *Plant Disease* **90**(8), p 113.

Additional key words: new record **Computer codes:** CVYV00, IR

2007/158 Surveys on tomato-infecting begomoviruses and *Bemisia tabaci* in Morocco

In Morocco, the first outbreaks of tomato yellow leaf curl disease (EPPO A2 List) were observed in 1997-1998 causing severe yield losses particularly in the regions of El Jadida (centre), Agadir (south) and Berkane (north-east). Both *Tomato yellow leaf curl virus* (TYLCV, *Begomovirus*) and *Tomato yellow leaf curl Sardinia virus* (TYLCSV, *Begomovirus*) were detected in Morocco. In 1999/2002, surveys were conducted in 32 tomato fields and glasshouses for the presence of tomato-infecting begomoviruses and *Bemisia tabaci* biotypes. Leaf samples were collected from tomato plants showing symptoms of leaf curling or reduced leaf size, and tested (PCR, sequencing). Only TYLCV and TYLCSV were detected in collected samples, no other begomovirus was found. Two distinct strains of TYLCV were detected, suggesting that at least two separate introductions of this virus occurred in Morocco. Infections of TYLCV and TYLCSV were unevenly distributed throughout Morocco. Infection levels were high in the south-west (where *B. tabaci* is present all-year round), moderate in the north-east and low in the north-west and north-centre. *B. tabaci* biotype Q was found throughout the country whereas biotype B was only found in the north-east.

Source: Tahiri A, Sekkat A, Bennani A, Granier M, Delvare G, Peterschmitt M (2006) Distribution of tomato-infecting begomoviruses and *Bemisia tabaci* biotypes in Morocco. *Annals of Applied Biology* **149**(2), 175-186.

Additional key words: detailed record **Computer codes:** BEMITA, TYLCV0, TYLCSV, MA

2007/159 Direct detection of *Erwinia amylovora* in plant tissues by PCR

A new PCR test for the detection of *Erwinia amylovora* (EPPO A2 List) has been developed in Austria. It uses a modified commercial PCR kit which allows a direct detection of the bacterium in plant tissues. This new PCR method was applied to 951 plant samples collected in Austria and compared with the standard protocol currently used (based on EPPO Standard PM 7/20, 2004). The new PCR method was found highly sensitive, rapid, easy to use, and therefore appropriate for the routine testing of large numbers of samples.

Source: Stöger A, Schaffer J, Ruppitsch W (2006) A rapid and sensitive method for direct detection of *Erwinia amylovora* in symptomatic and asymptomatic plant tissues by Polymerase Chain Reaction. *Journal of Phytopathology* **154**(7-8), 469-473.

Additional key words: diagnostics **Computer codes:** ERWIAM

2007/160 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered the notifications of non-compliance for 2007 received via Europhyt since the previous report (EPPO RS 2007/138) from the following EU countries: Austria, Belgium, Cyprus, the Czech Republic, Denmark, France, Finland, Germany, Greece, Ireland, Lithuania, the Netherlands, Poland, Slovenia, Spain, Sweden, the United Kingdom, and from Algeria, Bulgaria, Israel and Switzerland. 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 (*).

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.

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Agromyzidae	*Ocimum americanum*	Vegetables (leaves)	Thailand	France	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	France	6
Aleurocanthus woglumi	*Annona reticulata*	Fruits	India	United Kingdom	1
Aleyrodidae	*Eryngium foetidum*	Vegetables (leaves)	Thailand	France	4
Anoplophora chinensis	*Acer palmatum*	Plants for planting	China	United Kingdom	1
Bemisia tabaci	*Ajuga*	Plants for planting	Israel	United Kingdom	1
	Colocasia esculenta	Vegetables	India	United Kingdom	1
	Corchorus olitorius, Vernonia amygdalina	Vegetables	Nigeria	United Kingdom	1
	Crossandra	Plants for planting	Netherlands	United Kingdom	1
	Eryngium foetidum	Vegetables (leaves)	Thailand	France	1
	Eryngium foetidum, Ocimum basilicum	Vegetables (leaves)	Thailand	Ireland	1
	Eryngium foetidum, Solanum melongena, Solanum torvum, Piper nigrum	Vegetables	Thailand	Ireland	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
B. tabaci (cont.)	*Euphorbia pulcherrima*	Plants for planting	Denmark	United Kingdom	1
	Euphorbia pulcherrima	Plants for planting	Germany	Ireland	1
	Euphorbia pulcherrima	Cuttings	Netherlands	United Kingdom	2
	Euphorbia pulcherrima	Cuttings	Portugal	Sweden	2
	Euphorbia pulcherrima	Cuttings	Zimbabwe	Netherlands	1
	Euphorbia pulcherrima	Cuttings	Zimbabwe	United Kingdom	1
	Eustoma	Cut flowers	Israel	Netherlands	1
	Hibiscus	Plants for planting	Netherlands	United Kingdom	3
	Hibiscus rosa-sinensis	Plants for planting	Belgium	United Kingdom	1
	Hibiscus rosa-sinensis	Plants for planting	Netherlands	United Kingdom	1
	Houttuynia cordata	Plants for planting	Costa Rica	United Kingdom	1
	Hygrophila angustifolia	Aquarium plants	Singapore	Ireland	1
	Hygrophila corymbosa	Aquarium plants	Singapore	United Kingdom	1
	Ipomoea	Vegetables (leaves)	Ghana	United Kingdom	1
	Ipomoea, Vernonia	Vegetables (leaves)	Ghana	United Kingdom	1
	Nomaphila stricta	Aquarium plants	Singapore	United Kingdom	1
	Ocimum	Vegetables (leaves)	Thailand	Netherlands	1
	Ocimum basilicum	Vegetables (leaves)	Israel	Belgium	1
	Ocimum basilicum	Vegetables (leaves)	Israel	Ireland	1
	Ocimum basilicum	Vegetables (leaves)	Israel	Netherlands	3
	Rosa	Cut flowers	Israel	Netherlands	1
	Solidago	Cut flowers	Israel	Netherlands	1
	Trachelium	Cut flowers	Israel	Netherlands	1
	Veronica spicata	Cuttings	Netherlands	United Kingdom	1
Bemisia tabaci, Milviscutulus mangiferae	*Cordyline terminalis, Echinodorus paniculatus, Hygrophila*	Aquarium plants	Singapore	United Kingdom	1
Bemisia tabaci, Tephritidae (non-European)	*Colocasia esculenta, Momordica*	Vegetables	India	United Kingdom	1
Chionaspis xanthorrhoeae	*Xanthorrhoea*	Plants for planting	Australia	Israel	1
Clavibacter michiganensis subsp. *michiganensis*	*Lycopersicon esculentum*	Seeds	India	France	2
Clavibacter michiganensis subsp. *sepedonicus*	*Solanum tuberosum*	Ware potatoes	Germany	Lithuania	2
	Solanum tuberosum	Ware potatoes	Germany	Netherlands	1
	Solanum tuberosum	Ware potatoes	USA	United Kingdom	1
Cochliobolus carbonum	*Zea mays*	Seeds	France	Israel	1
Contarinia maculipennis	*Dendrobium*	Cut flowers	Thailand	Netherlands	1
Curculionidae	*Dracaena marginata*	Cut flowers	Costa Rica	Netherlands	1
Curculionidae: Molytinae	*Macrozamia riedlei*	Plants for planting	Australia	Israel	1
Dacus ciliatus	*Cucumis*	Fruits	Thailand*	United Kingdom	1
Diaphania indica	*Momordica charantia*	Vegetables	Kenya	United Kingdom	1
Fallopia convolvulus	*Beta vulgaris*	Seeds	Australia	Israel	1
	Spinacia oleracea	Seeds	USA	Israel	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Fusarium oxysporum, Colletotrichum	*Cactaceae*	Plants for planting	China	Netherlands	1
Globodera rostochiensis	*Solanum tuberosum*	Ware potatoes	Italy	Ireland	3
Guignardia citricarpa	*Citrus limon*	Fruits	South Africa	Netherlands	1
	Citrus paradisi	Fruits	South Africa	Netherlands	2
	Citrus sinensis	Fruits	Brazil	Netherlands	4
	Citrus sinensis	Fruits	South Africa	Netherlands	5
Helicoverpa	*Eryngium*	Cut flowers	Tanzania	Netherlands	1
Helicoverpa armigera	*Chrysanthemum*	Cuttings	Kenya	United Kingdom	1
	Dianthus	Cut flowers	Kenya	Netherlands	1
	Eryngium	Cut flowers	Zimbabwe	Netherlands	1
	Gypsophila	Cut flowers	Israel	Netherlands	1
	Pisum, Prunus	Vegetables	Thailand	Netherlands	1
	Rosa	Cut flowers	Ethiopia	Netherlands	2
	Rosa	Cut flowers	Israel	Netherlands	2
	Rosa	Cut flowers	Kenya	Netherlands	3
	Rosa	Cut flowers	Tanzania	Netherlands	3
	Rosa	Cut flowers	Uganda	Netherlands	2
	Rosa	Cut flowers	Zambia	Netherlands	1
	Rosa	Cut flowers	Zimbabwe	Netherlands	6
Hoplolaimus pararobustus, Helicotylenchus multicinctus		Growing medium	Cape Verde	United Kingdom	1
Iris yellow spot virus	*Eustoma grandiflorum*	Plants for planting	Netherlands	United Kingdom	1
Leptinotarsa decemlineata	*Solanum tuberosum*	Ware potatoes	Spain	United Kingdom	1
Leucinodes orbonalis	*Momordica, Solanum aethiopicum, Solanum melongena*	Vegetables	Ghana	Germany	1
	Solanum melongena	Vegetables	Ghana	Germany	1
	Solanum melongena	Vegetables	India	Germany	1
Liriomyza	*Apium graveolens*	Vegetables	Thailand	Sweden	1
	Chrysanthemum	Plants for planting	Kenya	United Kingdom	1
	Gypsophila	Cut flowers	Israel	Germany	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	Denmark	3
Liriomyza huidobrensis	*Eryngium*	Cut flowers	Kenya*	Netherlands	1
	Gypsophila	Cut flowers	Ecuador	Netherlands	3
	Lisianthus	Cut flowers	Malaysia	Netherlands	1
Liriomyza sativae	*Ocimum*	Vegetables (leaves)	Thailand	Sweden	1
	Ocimum americanum	Vegetables (leaves)	Thailand	France	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	Denmark	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	France	1
Liriomyza trifolii	*Gypsophila*	Cut flowers	Israel	Netherlands	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Myzus hemerocallis	*Hemerocallidis*	Plants for planting	USA	United Kingdom	1
Opogona sacchari	*Pachira aquatica*	Plants for planting	Netherlands	Bulgaria	1
Paratrichodorus porosus, *Meloidogynidae, Helicotylenchus dihystera, Criconema, Pseudo-parlatoria parlatoriodes, Aspidiotus destructor*	*Trachycarpus excelsa*	Plants for planting	Brazil	United Kingdom	1
Parlatoria camelliae	*Dracaena sanderiana*	Plants for planting	Taiwan	Israel	1
Paysandisia archon	*Chamaerops humilis, Chamaerops excelsa*	Plants for planting	Italy	United Kingdom	1
Pepino mosaic virus	*Lycopersicon esculentum*	Seeds	Chile	France	1
	Lycopersicon esculentum	Vegetables	Netherlands	United Kingdom	3
	Lycopersicon esculentum	Seeds	Taiwan*	United Kingdom	1
Phytophthora ramorum	*Rhododendron*	Plants for planting	Germany	United Kingdom	1
	Rhododendron	Plants for planting	Netherlands	Finland	1
Plum pox virus	*Prunus laurocerasus*	Plants for planting	Hungary	Romania	1
	Prunus triloba	Plants for planting	Hungary	Romania	1
Potato spindle tuber viroid	*Solanum*	Plants for planting	Germany	Sweden	1
	Solanum jasminoides	Plants for planting	Germany	Belgium	1
	Solanum jasminoides	Plants for planting	Netherlands	Germany	4
	Solanum jasminoides	Plants for planting	Netherlands	United Kingdom	1
	Solanum rantonnetii	Plants for planting	Portugal*	United Kingdom	1
Pratylenchus	*Bucida buceras*	Plants for planting	USA	Netherlands	1
Pratylenchus penetrans	*Canna*	Plants for planting	Netherlands	Israel	1
Pseudococcus comstocki	*Malus*	Fruits	USA	Israel	1
Pycnoscelus surinamensis	*Ocimum, Galadium?*	Vegetables	Thailand	Germany	1
Rhabdoscelus obscurus	*Phoenix roebelenii*	Plants for planting	Indonesia	Netherlands	1
Sclerotinia sclerotiorum	*Petroselinum crispum*	Seeds	Italy	Israel	1
	Raphanus sativus	Seeds	USA	Israel	2
Spodoptera	*Ocimum basilicum*	Vegetables (leaves)	Israel	Netherlands	1
Spodoptera littoralis	*Rosa*	Cut flowers	Kenya	Netherlands	2
Spodoptera litura	*Ocimum sanctum*	Vegetables (leaves)	Thailand	United Kingdom	1
Thripidae	*Gladiolus*	Cut flowers	Egypt	Cyprus	1
	Momordica	Vegetables	Dominican Rep.	United Kingdom	1
	Solanum gilo	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Ghana	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Thrips palmi	*Dendrobium*	Cut flowers	Malaysia	Netherlands	1
	Dendrobium	Cut flowers	Thailand	Netherlands	1
	Dendrobium, Oncidium	Cut flowers	Thailand	Netherlands	1
	Momordica	Vegetables	Dominican Rep.	Netherlands	2
	Orchidaceae	Cut flowers	Thailand	Austria	1
	Rhipsalis mesembryanthemoides	Cut flowers	Thailand	Netherlands	1
	Solanum gilo	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Dominican Rep.	Netherlands	1
Thrips tabaci	*Dianthus*	Cut flowers	Palestinian territory	Bulgaria	1
Thysanoptera	*Dendrobium*	Cut flowers	Singapore	Germany	1
	Momordica charantia	Vegetables	India	France	2
	Momordica charantia	Vegetables	Thailand	France	2
	Ocimum	Vegetables (leaves)	Thailand	France	1
	Solanum melongena	Vegetables	Thailand	France	4
Tomato spotted wilt virus	*Dischidia*	Plants for planting	Poland	Denmark	1
Trichodorus cedarus	*Rosa*	Cut flowers	Israel	Netherlands	1
	Ilex crenata	Plants for planting	Italy	United Kingdom	1
Unspecified weed seedlings	*Cocos nucifera*	Fibers for growing media	Sri Lanka	Israel	4
Xanthomonas axonopodis pv. citri	*Citrus*	Fruits	Bangladesh	United Kingdom	1
	Citrus	Fruits	India	United Kingdom	1
	Citrus aurantiifolia	Fruits	Bangladesh	United Kingdom	8
	Citrus aurantiifolia	Fruits	India	United Kingdom	1
	Citrus limon	Fruits	India	United Kingdom	1
Xanthomonas axonopodis pv. *poinsettiicola*	*Euphorbia pulcherrima*	Plants for planting	Germany	United Kingdom	2
	Euphorbia pulcherrima	Cuttings	Netherlands	United Kingdom	1
	Euphorbia pulcherrima	Plants for planting	Netherlands	United Kingdom	1
Xanthomonas axonopodis pv. *vesicatoria*	*Lycopersicon esculentum*	Seeds	Israel	Bulgaria	2

- **Fruit flies**

Pest	Consignment	Country of origin	Destination	nb
Anastrepha	*Mangifera indica*	Dominican Rep.	United Kingdom	1
	Mangifera indica	Dominican Rep.	Netherlands	1
Anastrepha obliqua	*Mangifera indica*	Dominican Rep.	United Kingdom	2
Bactrocera	*Mangifera indica*	India	United Kingdom	2
	Mangifera indica	Thailand	Netherlands	1
	Syzygium samarangense	Bangladesh	United Kingdom	1
Bactrocera cucurbitae	*Cucurbitaceae*	Bangladesh	United Kingdom	1

Pest	Consignment	Country of origin	Destination	nb
Bactrocera dorsalis	*Capsicum*	Thailand	Sweden	1
	Mangifera indica	Pakistan	United Kingdom	4
	Manilkara zapota	India	United Kingdom	1
Bactrocera zonata	*Mangifera indica*	Pakistan	United Kingdom	7
Non-European Tephritidae	*Annona cherimola*	Peru	France	1
	Capsicum annuum	Thailand	France	2
	Capsicum frutescens	Thailand	France	1
	Citrus sinensis	South Africa	Spain	1
	Mangifera indica	Cameroon	France	3
	Mangifera indica	Dominican Rep.	France	1
	Mangifera indica	Dominican Rep.	United Kingdom	2
	Mangifera indica	India	United Kingdom	1
	Mangifera indica	India	France	1
	Mangifera indica	Kenya	France	1
	Mangifera indica	Pakistan	United Kingdom	6
	Mangifera indica	Sri Lanka	France	1
	Mangifera indica	Vietnam	France	1
	Momordica charantia	Thailand	France	1
	Psidium guajava	India	France	1
	Syzygium samarangense	Thailand	France	1
	Ziziphus	Thailand	France	1

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Acantholyctus	Unspecified	Dunnage	Unknown	Israel	1
Aphelenchoididae	Unspecified	Wood	India	Germany	2
Aphelenchus	Unspecified	Wood	Argentina	Germany	1
	Unspecified	Wood	India	Germany	1
	Unspecified	Wood	Malaysia	Germany	1
	Unspecified	Wood	South Africa	Germany	2
Borkhausenia	Unspecified	Wood and bark	Russia	Israel	1
Camponotus fallax	Unspecified	Wood and bark	Ukraine	Israel	2
Camponotus vagus	Unspecified	Wood and bark	Ukraine	Israel	2
Cataulacus	*Bambusa*	Wood (canes)	China	Israel	2
Cerambycidae	Unspecified	Packing wood	China	Germany	2
Coleoptera	Unspecified	Dunnage	Russia	Cyprus	1
Crematogaster	*Bambusa*	Wood (canes)	China	Israel	1
Crepidodera aurea	Unspecified	Wood and bark	Ukraine	Israel	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Cryptophagidae	*Bambusa*	Wood (canes)	China	Israel	2
Crypturgus	Unspecified	Wood and bark	Russia	Israel	1
Ernobius mollis, Ernobius	Unspecified	Dunnage	Unknown	Israel	2
Globicornis	Unspecified	Wood and bark	Ukraine	Israel	1
Grub holes > 3 mm	*Larix*	Wood and bark	Russia	Finland	21
	Larix sibirica	Wood and bark	Russia	Lithuania	1
	Picea	Wood and bark	Russia	Finland	1
	Unspecified	Packing wood	India	Germany	1
Hylastes bruneus	Unspecified	Wood and bark	Ukraine	Israel	1
Hylastes opacus	Unspecified	Wood and bark	Russia	Israel	1
Hylurgops	*Pinaceae*	Wood and bark	Russia	Israel	1
Hylurgops palliatus	Unspecified	Wood and bark	Russia	Israel	1
Ips	*Bambusa*	Wood (canes)	China	Israel	2
Ips acuminatus	Unspecified	Wood and bark	Russia	Israel	1
Ips ?benqueti	Unspecified	Wood and bark	Russia	Israel	1
Ips laricis	Unspecified	Wood and bark	Ukraine	Israel	1
Ips proximus	Unspecified	Wood and bark	Russia	Israel	1
Ips saturalis, Ips	Unspecified	Wood (canes)	China	Israel	1
Ips typographus	*Picea, Pinus*	Wood and bark	Russia	Israel	1
Leiopus	Unspecified	Wood and bark	Ukraine	Israel	1
Melandria	Unspecified	Wood and bark	Ukraine	Israel	1
Micrambe	*Bambusa*	Wood (canes)	China	Israel	1
Micrapate	Unspecified	Wood and bark	Ukraine	Israel	1
Monochamus	Unspecified	Packing wood	USA	France	1
Nematoda	Unspecified	Packing wood	China	Finland	1
	Unspecified	Packing wood	China	Finland	1
Orthotomicus	Unspecified	Wood and bark	Russia	Israel	1
Pityogenes	Unspecified	Wood and bark	Russia	Israel	3
	Unspecified	Wood and bark	Ukraine	Israel	2
Pityogenes chalcagraphus	*Pinaceae*	Wood and bark	Russia	Israel	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Pityogenes quadridens	Unspecified	Wood and bark	EU	Israel	1
	Unspecified	Wood and bark	Romania	Israel	1
Proctolaelaps	Unspecified	Wood and bark	Russia	Israel	1
Pycnoscelus surinamensis	Unspecified	Packing wood	Vietnam	Germany	1
Pyralidae (larvae)	*Bambusa*	Wood (canes)	China	Israel	1
Scolytidae	*Coniferales*	Wood and bark	Canada	Ireland	1
	Coniferales	Wood and bark	Russia	Cyprus	1
	Coniferales, Populus	Wood and bark	Ukraine	Cyprus	1
	Unspecified	Packing wood	Brazil	Germany	1
Sinoxylon	Unspecified	Packing wood	India	Germany	3
	Unspecified	Packing wood	Vietnam	Germany	1
Sinoxylon anale	Unspecified	Packing wood	India	Austria	1
Sinoxylon anale, Sinoxylon crassum	Unspecified	Packing wood	India	Austria	1
Sinoxylon ceratoniae	Unspecified	Packing wood	India	Germany	1
Siricidae	Unspecified	Packing wood	India	Germany	1
Tetropium castaneum	Unspecified	Wood and bark	Russia	Israel	2
Tomicus minor	*Pinaceae*	Wood and bark	Ukraine	Israel	1
Trichoferus	*Populus*	Wood and bark	Romania	Israel	1
Trypophloeus	Unspecified	Wood and bark	Ukraine	Israel	1
Uleiota planata	Unspecified	Wood and bark	Ukraine	Israel	1
Xylotrechus, Sinoxylon	Unspecified	Packing wood	India	Germany	1

- **Bonsais**

Pest	Consignment	Country of origin	Destination	nb
Oligonychus perditus	*Juniperus chinensis*	Japan	Netherlands	1
Pratylenchus	*Ilex crenata, Pinus pentaphylla*	Japan	Netherlands	1
Xiphinema americanum	*Acer, Enkianthus, Ilex crenata, Podocarpus, Taxus, Trachycarpus fortunei*	Japan	Netherlands	1

Source: EPPO Secretariat, 2007-08.

2007/161 Preventing introductions of invasive plants for horticultural purposes through voluntary initiatives in the USA

Although prevention is the most cost-effective way to avoid plant invasions, the scientific community, the public sector and private institutions have dedicated substantially more attention and resources to eradication and control. Consequently, invasive plants continue to be freely imported and commercialized for horticultural purposes. In the USA, the horticultural trade, which is economically important and one of the fastest growing segments of agriculture, is considered to be the main pathway for introducing invasive plants. With very little government regulation on imports of invasive plants, efforts are currently being made to encourage self-regulation of the horticultural trade through voluntary initiatives. It is considered that self-regulation is likely to reduce the introduction of invasive plants as:

- it deals with non-essential commodities, in both ornamental landscaping and erosion control, non-invasive alternative plants can be substituted for invasive plant
- close consumer contact and high public visibility of the horticultural trade can help to build an environmentally responsible business image and generate more profits
- the threat of increased government regulation of horticultural imports is presumed to encourage the horticulture trade to proactively adopt voluntary initiatives.

In order to assess the potential efficacy of such voluntary programmes, it is important to identify the social factors that will affect the participation of the horticultural industry. A survey of wholesale and retail nurseries was conducted in California in the San Francisco Bay area to gauge the nurserymen's perception of the invasive species, the role of the horticultural trade in invasive plant introductions, and their participation – potential or actual – in preventive measures (outlined in the St Louis Voluntary Codes of Conduct for nurserymen, see EPPO RS 2007/081). Forty-five nurseries out of 207 responded to the telephone survey consisting of 25 questions. As the region studied has a reputation for environmental activism, it was anticipated that these results would be superior to the national average.

Perspectives on invasive plants and involvement in prevention

Results show that awareness of the invasive plant problem among professionals was high. All survey respondents (100%) had heard the term "invasive species". An overwhelming majority (93%) agreed that "invasive plants are an important environmental concern". Most respondents (82%) agreed that "the horticulture trade has a role in the introduction of invasive plants".

Furthermore, respondents indicated that horticultural groups were more "responsible for preventing plant invasions via the horticulture trade" (growers, wholesalers, retailers, by order of highest responsibility score) than non-horticultural groups (scientists, policy makers, government agencies, consumers, by order of highest responsibility score).

Very few respondents knew of the St Louis Voluntary Codes of Conduct. About 83% of respondents reported having participated in at least one preventive measure, whereas nearly all (98%) respondents reported that they were at least willing to participate in one or more measures. The percentages of respondents reporting that they "have engaged" or "would engage" in specific preventive measures are presented below:

Preventive measures	% of respondents reporting "have engaged"	% respondents reporting "would engage"
Evaluate horticultural plants for whether they are likely to become invasive	35	31
Monitor plants to assess whether they may be invasive	31	30
Interact with experts to determine which plants are or might become invasive	35	41
Try to breed alternatives to invasive plants	0	6
Phase out plants that nursery associations, scientists and other experts determine to be invasive	39	46
Encourage customers to use non-invasive plants	69	20

Approximately half (52%) of the respondents indicated that learning of the existence of the St Louis Voluntary Codes of Conduct during the survey made them more likely to participate in the preventive measures outlined in this initiative. While participation in preventive measures is not currently widespread, the survey indicates potential for improved future participation.

Relating perceptions, business characteristics and preventive behaviour

Respondents with a higher awareness of the invasive plant problem reported significantly greater participation in preventive measures. Respondents who reported greater involvement with trade associations reported participating in significantly more preventive measures. An explanation could be that nurserymen involved in trade associations may identify more closely with the nursery community and share greater awareness of current issues in horticulture, perhaps via information directly disseminated by these trade associations. Nursery type (retail versus wholesale) and size were non-significant predictors of participation in preventive measures, and business size and visibility to consumers were not found to influence decisions as much as personal motivation.

Incentives and obstacles

Incentives and obstacles to participation in preventive measures are reported below, ranked by percentage of respondents:

	% cited
Incentives	
Concern for the environment	91
Cultivating a green business image	75
Consumer demand	70
If other nurseries were doing these activities	53
Employee pressure	45
Preventing government regulations	42
Obstacles	
Lack of information	66
Limited personnel	60
Too time-consuming	58
Too expensive	38
Lack of incentive	36

Other environmental concerns are more important	28
Lack of interest	19
Engaging in those activities will not help to prevent invasions	15
Other nurseries are not doing these activities	11

These results highlight that cited incentives rank in an order that emphasizes a strong environmental ideology and de-emphasizes purely business-related incentives. Nurserymen in the region under study claim a strong environmental ideology as a significant motivator to their actions. Similarly, all top-cited obstacles pertained to feasibility of participation, while respondents least cited belief-related obstacles. Respondents most often cited "lack of information" as an obstacle to participation in preventive measures. Necessary information may include species-specific evaluations of invasiveness, practical guidelines for implementing preventing measures, proposals for alternatives.

In general, the survey results are promising in terms of voluntary self-regulation of the horticultural trade. Whether the nurserymen will participate to the extent required to effectively prevent introductions of horticultural invasive species will depend on whether the identified obstacles, notably the lack of information, can be overcome. It will also depend on the motivation of individual nursery practitioners, some of whom refused to participate in the majority of preventive measures. Success at a broader scale may be compromised if the intended goals of voluntary codes of conduct cannot be achieved in this particular population of nurserymen. Since information circulating through trade associations may not reach most nurserymen, popular horticultural references may be a promising means of communication. Incorporating an invasiveness rating in such references could become an effective means of preventing sales and spread of invasive plants at all levels, from commercial nurseries to the individual consumer.

Source: Burt JW, Muir AA, Piovia-Scott J, Veblen KE, Chang AL, Grossman JD, Weiskel HW (2007) Preventing horticultural introductions of invasive plants: potential efficacy of voluntary initiatives. Biological invasions. DOI 10.10007/s10530-007-9090-4
http://www.cpb.ucdavis.edu/bioinv/downloads/Burt_etal_2007_Biol_Inv.pdf

Additional key words: invasive alien plants, nursery industry **Computer codes:** US

2007/162 A proposed mandatory labelling scheme for invasive species

In Australia, the economic impact of weeds is estimated as 4 billion AUD per year, taking into account production losses and control costs (excluding environmental costs and the impact on biodiversity which are very difficult to estimate). The garden industry is a major pathway for invasive alien plants as 70% of the Australian agricultural and environmental weeds were ornamental escapees.
In 2004, the Australian authorities recommended that a mandatory labelling of invasive alien plants should be considered. This labelling consists of indicating the country of origin of the plant, the areas where it is indigenous, and whether it has proven invasive elsewhere.
Plant purchase transactions of plants are important potential points of intervention since they can be used to:
- encourage consumers in purchasing non invasive plants
- stimulate action to manage past invasions or to report and control new outbreaks, provide information to enable consumers to prevent any further spread of the invasive species they have purchased.

Such a labelling system would also be favourable to the nursery industry because:
- it would allow a graduated transition when replacing invasive species by non-invasive species thus permitting the industry to maintain profits
- it would incur lower costs than a banning/policing approach
- it would help to minimize potential future civil liability
- it would increase consumer reliance on industry expertise.

For governments, an industry led-strategy would probably incur lower costs than a regulatory one.

A mandatory programme of labelling is expected to be more effective than a voluntary one because:
- wide industry participation would be needed
- it would be unfair for all the costs of such a programme to be borne by voluntary participants only.

Overall, it is expected that a mandatory labelling scheme would be a cost-effective complement to regulations on import and sale of invasive species, provided that:
- prior to or during the implementation of a mandatory labelling scheme, an information programme is developed to encourage consumers to modify their behaviour
- regulatory and administrative systems are able to underpin the strategy
- industry and governments commit sufficient resources and effort to overcome the difficulties met while implementing such a strategy.

Source: Martin P, Verbeek M, Thomson S, Martin J (2005) The costs and benefits of a proposed mandatory invasive species labelling scheme, a discussion paper prepared for WWF-Australia by the Australian Centre for Agriculture and Law, University of New England. WWF-Australia, Sydney. 30 pp.
http://wwf.org.au/publications/InvasivesMandatoryLabelling/

Additional key words: invasive alien plants, labelling **Computer codes:** AU

2007/163 Machinery pathway: what is on your vehicle?

In Victoria (Australia), 35 vehicles and machines were cleaned and assessed for weed contamination: 18 utility and 4x4 vehicles, and 17 agricultural machines. The utility vehicles were mainly from local and state government organizations (except for 3 vehicles belonging to private contractors). All vehicles were exposed in their daily business to weed propagules. When collected, samples were visually assessed, spread over trays, and watered so that contaminating seeds could germinate.
More than 130 species were identified. Fourteen of these were declared noxious weeds in Victoria and 6 were regionally prohibited. The highest number of species found on a single vehicle was 38. No vehicles were free from contaminants. Poaceae, Asteraceae and Fabaceae were the most commonly represented families.
The most frequently found species or genus are listed in the table below, with their family, origin, and status in the Global Compendium of Weeds (GCW) which indicates their invasive behaviour elsewhere in the world, as well as the number of occurrences observed on vehicles and machinery.

Species	Family	Origin	GCW Status*	Vehi.	Mach.
Bromus catharticus	Poaceae	Americas	W, EW	4	6
Cenchrus spp.	Poaceae		W, QW	1	0
Centaurea calcitrapa	Asteraceae	Medit., W-As.	W, NW, GE, EW	1	0
Cirsium vulgare	Asteraceae	Euras.	W, NW, EW	2	0
Conium maculatum	Apiaceae	Europe	W, QW, NW, GE, EW	0	1
Crassula sp.	Crassulaceae		W	6	6
Dittrichia graveolens	Asteraceae	Medit., Middle East	W, NW, EW	2	0
Foeniculum vulgare	Apiaceae	Medit.	W, NW, GE, EW	0	1
Hordeum sp.	Poaceae		W, EW	6	3
Juncus acutus	Juncaceae	?	W, NW, Nat W, EW	0	1
Juncus bufonius	Juncaceae	Cosm.	W, EW	7	8
Lolium sp.	Poaceae		W, EW	7	8
Marrubium vulgare	Lamiaceae	Euras., N-Af.	W, QW, NW, GE, EW	1	0
Medicago sp.	Fabaceae		W	5	7
Nassella neesiana	Poaceae	S-Am.	W, QW, NW, EW	1	1
Oxalis pes-caprae	Oxalidaceae	S-Af.	W, NW, NatW, GE, EW	0	2
Pennisetum macrourum	Poaceae	S-Af.	W, QW, NW, GE, EW	1	0
Phalaris sp.	Poaceae		W, NW	7	8
Plantago coronopus	Plantaginaceae	Eurasia	W, GE, EW	4	10
Plantago lanceolata	Plantaginaceae	Eurasia	W, NW, GE, EW	2	8
Poa annua	Poaceae	Eurasia	W, NW, GE, EW	4	8
Polygonum sp.	Polygonaceae		W, QW	4	10
Rumex sp.	Polygonaceae		W, NW, EW	4	9
Silybum marianum	Asteraceae	Eurasia	W, QW, NW, EW	1	0
Sonchus oleraceus	Asteraceae	Eurasia	W, NW, EW	5	5
Tribulus terrestris	Zygophyllaceae	Madagascar	W, NW, NatW	2	1
Trifolium sp.	Fabaceae		W, EW	6	5
Ulex europaeus	Fabaceae	Eurasia	W, QW, NW, GE, EW	1	0
Vulpia sp.	Poaceae		W	7	9
Xanthium spinosum	Asteraceae	Trop. Am.	W, QW, NW, EW	1	0

* Abbreviations for the Global Compendium of Weeds column:
W: weed; NW: noxious weed; NatW: native weed; QW: quarantine weed; GE: garden escape; EW: environmental weed.

Although the sample size was possibly too small to draft any broad conclusions, this study highlights the fact that vehicles and machinery can play an important role in weed dispersal. Thorough cleaning of vehicles would significantly reduce the risk of speading weeds.

Source: Under Control - Pest Plant and Animal Management News n°32 (2005) Victorian Departments of Sustainability and Environment and Primary Industries in Australia. 15-17 p. www.dse.vic.gov.au/undercontrol

Additional key words: invasive alien plants, pathway

Computer codes: BROCA, 1CCHG, CENCA, CIRVU, COIMA, 1CSBG, INUGR, FOEVU, 1HORG, IUNAC, IUNBU, 1LOLG, MAQVU, 1MEDG, OXAPC, PESMA, 1PHAG, PLACO, PLALA, POAAN, 1POLG, 1RUMG, SLYMA, SONOL, TRBTE, 1TRFG, ULEEU, 1VLPG, XANSP, AU

2007/164 An Australian newsletter: 'Under Control - Pest Plant and Animal Management'

Under Control - Pest Plant and Animal Management News is a tri-annual newsletter produced by the Victorian Departments of Sustainability and Environment and Primary Industries in Australia. It provides accurate, up-to-date information on pest management programs and topical issues in Victoria, with the main emphasis on weeds. This newsletter is freely available on the Internet and in the last three issues the main topics covered were as follows:
Alert list and new infestations: *Nassella charruana* (Poaceae) alert (no. 35); Invasion process of *Nasella neesiana* (Poaceae) (n°35); Weed Watch Warning on *Gazania* spp. (no. 33); Description of *Phalaris coerulescens* (Poaecae) (no. 34).
Management of invasive alien plants: Herbicide resistance of *Nassella trichotoma* (Poaceae) (no. 35); Control options for *Equisetum* spp. (Equisetaceae), (no. 35); Mowing of *Pennisetum macrourum* (Poaceae) (no. 34); Aerial sprays of *Spartina x townsendii* and *S. anglica* (Poaceae) (no. 33).
Management strategy and extension: Tackling weeds on private lands (no. 35); Public Land Pest Management Strategy (no. 34); Agricultural chemical regulation (no. 34); How do selective herbicides work? (no. 33).
Biological control of invasive alien plants: Potential biological control agents of *Nassella neesiana* and *Nassella trichotoma* (Poaceaes) (no. 35); The prickly path to control *Rubus fruticosus* (Rosaceae) by biological control.
Other useful publications: The *Chrysanthemoides monilifera* spp. *monilifera* (Asteraceae) management book (no. 35); Top Victoria weeds on CD for the nursery and garden industry (no. 33)

Source: Under Control - Pest Plant and Animal Management News. Victorian Departments of Sustainability and Environment and Primary Industries in Australia. www.dse.vic.gov.au/undercontrol

Additional key words: invasive alien plants **Computer codes:** AU, 1EQUG, STDTR, CSMMO, PESMA, PHACO, RUBFR, SPPTO, SPTAN