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21 Bld Richard Lenoir
75011 Paris

Tel: 33 1 45 20 77 94
Fax: 33 1 70 76 65 47

E-mail: hq@eppo.int
Web: www.eppo.int

2012/090 First report of *Aromia bungii* in Germany: addition to the EPPO Alert List

The NPPO of Germany recently informed the EPPO Secretariat of the first record of *Aromia bungii* (Coleoptera: Cerambycidae) on its territory. In July 2011, a single male specimen of *A. bungii* was found on an old damson plum tree (*Prunus domestica* subsp. *insititia*) in a private garden near Kolbermoor in the south of Bayern. Exit holes were observed on this plum tree and the garden owners also mentioned that they had observed two other specimens (*A. bungii* adults are large black cerambycids with a distinctively red pronotum). Considering that the life cycle of *A. bungii* may take 2 to 3 years, it was estimated that *A. bungii* was introduced into this garden in 2008 or 2009. This finding was made by scientists unrelated to the NPPO and was not brought immediately to the attention of the German NPPO. Therefore, the identity of the pest could only be confirmed officially in April 2012. The origin of this infestation is currently unknown but tracing-back studies are on-going. Quarantine measures have been imposed on the infested site and an intensive survey is being carried out. Official eradication measures are envisaged.
The pest status of *Aromia bungii* in Germany is officially declared as: **Transient, only at one location, under eradication.**

Aromia bungii (Coleoptera: Cerambycidae) – Redneck longhorned beetle

Why	In 2011, the presence of *Aromia bungii* was recorded for the first time in one location in Germany. Because *A. bungii* is a fruit tree pest originating from Asia which was previously not known to occur in the EPPO region, the NPPO of Germany and the EPPO Panel on Phytosanitary Measures suggested its addition to the EPPO Alert List.
Where	*A. bungii* is thought to originate from the temperate regions of China. **EPPO region:** Germany (few specimens observed in 2011 in a private garden in Bayern, under eradication). In 2008, an interception of *A. bungii* had been reported by the United Kingdom. Three beetles were discovered among wooden pallets in a warehouse in Bristol but the insect did not establish (no further specimens or signs of presence were found). **Asia**: China (present throughout China but more prevalent in the central and northern provinces), Korea (Republic of), Korea (Peoples' Democratic Republic of), Mongolia, Taiwan, Vietnam. Details on its distribution in Asia are generally lacking, therefore this distribution is only preliminary. **North America**: Absent, intercepted only. In July 2008, *A. bungii* was intercepted in a manufacturing plant, importing products from China and Taiwan, located at the port of Seattle (Washington state, US) in July 2008.
On which plants	In China, the main host plants are *Prunus* species (Rosaceae), in particular peach (*Prunus persica*) and apricot (*P. armeniaca*), and to a lesser extent plum (*P. domestica*) and cherry (*P. avium*). The following tree species are also reported to be host plants of *A. bungii* but without any indication of the extent and severity of damage: *Azadirachta indica* (Meliaceae), *Bambusa textilis* (Poaceae), *Diospyros virginiana* (Ebenaceae), *Olea europea* (olive - Oleaceae), *Populus alba* (Salicaceae), *Pterocarya stenoptera* (Juglandaceae), *Punica granatum* (pomegranate - Lythraceae), *Schima superba* (Theaceae).
Damage	Larvae of *A. bungii* bore galleries (17-22 cm long) in the trunk and larger lateral branches, leading to loss of fruit production and weakening of the trees. Exit holes and frass are signs of the presence of the pest. Larvae infest the subcortical area beneath the bark and the sapwood (less commonly the heartwood). *A. bungii* attacks healthy to slightly stressed trees. Adults are black cerambycids (approximately 40 mm long) with glossy elytra and a distinctively red pronotum (although some forms may be completely black). Pictures can be viewed on the Internet: http://www.biolib.cz/en/image/id48689/ http://www.biolib.cz/en/image/id48688/ http://www.s5461.net/kj/hjkj/dwy/dwjs/201001/55456.asp

Data on the biology of *A. bungii* is generally lacking. In Northern China, it is reported that one generation may take 2 to 3 years, the insect overwintering at various larval stages inside galleries. Larvae start feeding in early or mid-April with a peak of feeding activity from May to June. Pupation takes place at the end of June and adults emerge from late June until early August. Eggs are laid in bark crevices on the trunk and main branches at the beginning of July and hatch after 8-9 days (mid-July). Adults emit a particular odour to keep natural enemies at bay when they are disturbed.

Dissemination — No data is available on the natural spread of *A. bungii*, but as in the case for the other cerambycids (e.g. *Anoplophora* spp.) it is considered that adults can only fly over rather short distances. The two incidents reported from the United Kingdom and USA strongly suggested that imports of goods from Asia could transport the pest to other continents. The most likely pathways are suspected to be wood packaging material (because *Populus alba* is reported to be a host plant) and trade of nursery plants (ornamentals, fruit tree species).

Pathway — Plants for planting, wood, wood packaging material from countries where *A. bungii* occurs.

Possible risks — *Prunus* species are widely grown across the EPPO region for ornamental purposes and fruit production, and are of major economic importance. In China, *A. bungii* is considered to be a common pest of peach and apricot. The fact that it may also attack other important trees cultivated for fruit (e.g. olive, pomegranate) or wood production (e.g. *Populus alba*) adds to the risk. Data is lacking on the possible control methods against the pest, but as with control methods against other tree borers, they are most likely to be difficult to apply in practice. In the Chinese literature, there are reports of trials using nematodes (e.g. *Steinernema carpocapsae, S. feltiae*) as biocontrol agents against *A. bungii*, but it is not known how extensively and effectively these treatments can be used in the field. Considering the length of the biological cycle and the hidden behaviour of larvae, *A. bungii* is difficult to detect on infested plants or wood. An Express-PRA was conducted in Germany and concluded that despite a general lack of information about *A. bungii*, this pest probably has the potential to establish in most parts of the EPPO region and presents a high risk.

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EPPO RS 2012/090

Panel review date - Entry date 2012-05

2012/091 First report of *Tuta absoluta* in Qatar

In March 2011, *Tuta absoluta* (Lepidoptera: Gelechiidae – EPPO A2 List) was found for the first time in Qatar at Al-Khor, an area located in the north of the country. The infestation was observed on glasshouse tomato plants growing in two neighbouring farms. Some tomato plants growing in an open field in the same site were also found to be infested by the insect. An eradication programme has been implemented by removing and burning all infested plants, spraying pesticides, pest monitoring using water and pheromone traps. The possible source of infestation may be from tomato fruits imported from outside the country. Precautions are being taken to prevent any further spread of the insect (i.e. prohibition to move plant material from the infested site including composted material, disinfection of all equipment used for plant destruction, warning notices for visitors and elimination of all residues of previous plants and wild host weeds of the solanaceous family). This is the first report of *Tuta absoluta* in Qatar.

Source: Personal communication (2012-05) with Dr Emad Hussain Al-Turaihi, Agricultural Affairs Department, Ministry of Environment, P.O. Box 1966. Doha-Qatar. E-mail: emadhussain30@yahoo.com

Additional key words: new record **Computer codes:** GNORAB, QA

2012/092 First report of *Eurytoma plotnikovi* in Sicilia, Italy

In spring 2011, pistachio nuts (*Pistacia vera*) infested by larvae of an unidentified wasp were collected from several orchards located in central-western Sicilia, Italy. Larvae were reared in the laboratory and emerging adults were identified as *Eurytoma plotnikovi* (Hymenoptera: Eurytomidae). *E. plotnikovi* originates from China where it is reported to develop in nuts of *Pistacia chinensis* (an ornamental species with non-edible nuts). This seed wasp has also been recorded outside China in Greece, Iran, Israel, Kyrgyzstan, Tunisia, Turkmenistan, and Turkey. In the pistachio orchards studied in Sicilia, *E. plotnikovi* was found in mixed populations with another seed wasp, *Megastigmus pistaciae*, a native species. Damage caused by *E. plotnikovi* has been noticed by growers since 2009 but was confused with that caused by *M. pistaciae*. The authors noted that considering the importance of the pistachio industry in eastern Sicilia (where *E. plotnikovi* has not been found), it was desirable to prevent its further spread across the island.

Source: Longo S, Suma P (2011) First report of *Eurytoma plotnikovi* Nik. (Hymenoptera, Eurytomidae), a seed parasite of pistachio, in Sicily (Italy). *Journal of Entomological and Acarological Research, Serie II* **43**(3), 333-336.

Additional key words: new record **Computer codes:** EURTPL, IT

2012/093 Outbreak of *Liriomyza huidobrensis* in Finland

The NPPO of Finland recently informed the EPPO Secretariat of an outbreak of *Liriomyza huidobrensis* (Diptera: Agromyzidae - EPPO A2 List) on its territory. On 2012-04-26, *L. huidobrensis* was caught in sticky traps placed in one glasshouse growing various bedding plants. The origin of the pest remains unknown. Eradication measures were immediately implemented.
The pest status of *Liriomyza huidobrensis* in Finland is officially declared as: **Present, under eradication.**

Source: NPPO of Finland (2012-04).

Additional key words: detailed record **Computer codes:** LIRIHU, FI

2012/094 Outbreak of *Liriomyza trifolii* in Finland

The NPPO of Finland recently informed the EPPO Secretariat of an outbreak of *Liriomyza trifolii* (Diptera: Agromyzidae - EPPO A2 List) on its territory. On 2012-04-04, *L. trifolii* was found on *Gerbera* plants in one glasshouse producing cut flowers (where the pest had never been found before). The origin of the pest remains unknown. Eradication measures were immediately implemented.
The pest status of *Liriomyza trifolii* in Finland is officially declared as: **Present, under eradication.**

Source: NPPO of Finland (2012-04).

Additional key words: detailed record **Computer codes:** LIRITR, FI

2012/095 Outbreak of *Impatiens necrotic spot virus* in Finland

The NPPO of Finland recently informed the EPPO Secretariat of an outbreak of *Impatiens necrotic spot virus* (*Tospovirus*, INVS - EPPO A2 List) on its territory. On 2012-02-23, INSV was detected on pot plants of *Begonia*, *Impatiens hawkeri* and *Kalanchoe blossfeldiana* at 1 place of production. Within the production site, the virus was efficiently transmitted by *Frankliniella occidentalis* but the origin of the infestation remains unknown. Eradication measures were immediately implemented.
The pest status of *Impatiens necrotic spot virus* in Finland is officially declared as: **Present, under eradication.**

Source: NPPO of Finland (2012-04).

Additional key words: detailed record **Computer codes:** INSV00, FI

2012/096 Outbreak of *Bemisia tabaci* in Finland

The NPPO of Finland recently informed the EPPO Secretariat of an outbreak of *Bemisia tabaci* (Hemiptera: Aleyrodidae - EPPO A2 List) on its territory. On 2012-04-16, *B. tabaci* was caught in yellow sticky traps placed in 2 glasshouses growing a large variety of plant species. The origin of the pest remains unknown. Eradication measures were immediately implemented.
The pest status of *Bemisia tabaci* in Finland is officially declared as: **Present, under eradication.**

Source: NPPO of Finland (2012-04).

Additional key words: detailed record **Computer codes:** BEMITA, FI

2012/097 First report of *Tomato infectious chlorosis virus* in Bulgaria

In Bulgaria, during a recent survey of tomato crops conducted near Plovdiv, symptoms of interveinal leaf yellowing and necrosis were observed on tomato plants (*Solanum lycopersicum* cv. 'Velocity') in one glasshouse. Most of the plants were severely affected and yield was drastically reduced. The crop was also heavily infested by *Trialeurodes vaporariorum*. Laboratory analysis (serological and molecular tests) confirmed the presence of *Tomato infectious chlorosis virus* (*Crinivirus*, TICV – EPPO A2 List). This is the first time that TICV is reported in Bulgaria. The origin of this infection remains unknown but it is suspected that the virus may have spread from Greece (as Greek and Bulgarian isolates studied were closely related) via the whitefly vector or trade of infected propagation material.
The situation of *Tomato infectious chlorosis virus* in Bulgaria can be described as follows: **Present, detected in one glasshouse near Plovdiv.**

Source: Pasev G, Radeva V, Lostova D (2012) First report of *Tomato infectious chlorosis virus* on tomato in Bulgaria. *Journal of Phytopathology* **160**(3), 115-166.

Additional key words: new record **Computer codes:** TICV00, BG

2012/098 First report of *Tomato chlorosis virus* in Hungary

In 2007, an unusual disease of tomato (*Solanum lycopersicum*) was observed in some glasshouses in Tömörkény (Csongrád county) in Southern Hungary. Affected plants were chlorotic and stunted, and their leaves showed mottling, asymmetric interveinal yellowing and necrosis. Laboratory analysis (DAS-ELISA, RT-PCR, electron microscopy) confirmed the presence of *Tomato chlorosis virus* (*Crinivirus*, ToCV - EPPO A2 List) in affected tomato plants. This is the first time that ToCV is reported from Hungary.
The situation of *Tomato chlorosis virus* in Hungary can be described as follows: **Present, first found in 2007 in glasshouse tomatoes near Tömörkény (Csongrád county).**

Source: Bese G, Bóka K, Krizbai L, Tákacs AP (2011) [First occurrence of *Tomato chlorosis virus* in tomato in Hungary]. *Növényvédelem* **47**(9), 377-380 (in Hungarian).
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Additional key words: new record **Computer codes:** TOCV00, HU

2012/099 First report of *Tomato chlorosis virus* in Sudan

In March 2011, symptoms resembling those of *Tomato chlorosis virus* and *Tomato infectious chlorosis virus* (both *Crinivirus*, ToCV and TICV - EPPO A2 List) were observed in tomato plants (*Solanum lycopersicum* cv. 'Castle Rock') in 3 adjacent glasshouses of the Agricultural Research Cooperation at Wad Medani (Gezira state), Sudan. The presence of *Bemisia tabaci* (Hemiptera: Aleyrodidae – EPPO A2 List) was also observed in these glasshouses. Leaf samples were collected from symptomatic plants and tested in the laboratory (dot-blot hybridization, RT-PCR, sequencing). The presence of ToCV was confirmed in diseased tomato plants. This is the first time that ToCV is reported from Sudan. It is also noted that yellowing symptoms have been sporadically observed during the last few years in open-field tomato crops in the state of Gezira. However, further studies are needed to determine the prevalence and economic impact of ToCV in tomato crops in Sudan.
The situation of *Tomato chlorosis virus* in Sudan can be described as follows: **Present, first found in 2011 in glasshouse tomatoes (3 glasshouses of a research station), Gezira state.**

Source: Fiallo-Olivé E, Hamed AA, Moriones E, Navas-Castillo J (2011) First report of *Tomato chlorosis virus* infecting tomato in Sudan. *Plant Disease* **95**(2), p 1592.

Additional key words: new record **Computer codes:** TOCV00, SD

2012/100 '*Candidatus* Liberibacter solanacearum' does not occur in Canada

The NPPO of Canada officially declared that '*Candidatus* Liberibacter solanacearum' (EPPO Alert List) has never been detected in Canada on tomato or potato. The record of '*Ca*. L. solanacearum' in Alberta appearing in EPPO RS 2009/089 is considered erroneous. In addition, the psyllid vector (*Bactericera cockerelli*) is not established in Canada. It may be found in glasshouses, but outdoor populations only occur late in the season after migration from the USA and cannot overwinter under the Canadian climatic conditions.

Source: NPPO of Canada (2012-04).

Additional key words: denied record **Computer codes:** LIBEPS, PARZCO, CA

2012/101 Outbreak of *Clavibacter michiganensis* subsp. *sepedonicus* in Finland

The NPPO of Finland recently informed the EPPO Secretariat of an outbreak of *Clavibacter michiganensis* subsp. *sepedonicus* (EPPO A2 List) on its territory. The bacterium was detected in 2 samples collected from 2 ware potato fields (*Solanum tuberosum* cv. 'Asterix') in one farm during the 2011 national survey. The extent of the probable contamination has been determined as being the entire area of the farm. Seven other farms that have used the same seed potato lot were inspected but the bacterium was not detected. On the infected farm, phytosanitary measures were applied in accordance with EU Directive 2006/56/EC.
The situation of *Clavibacter michiganensis* subsp. *sepedonicus* in Finland can be described as follows: **Present, restricted distribution, under official control.**

Source: NPPO of Finland (2012-05).

Additional key words: detailed record **Computer codes:** CORBSE, FI

2012/102 Eradication of *Acidovorax citrulli* from Emilia-Romagna (IT)

In Italy, the presence of *Acidovorax citrulli* (EPPO Alert List) was reported in October 2009 in a single melon field (*Cucurbita melo* cv. 'Giusto') in the province of Ferrara, Emilia-Romagna region (see EPPO RS 2010/059). Because the bacterium was detected at the end of the growing season, the grower was asked to apply herbicides and not to replant melons in the infected field. In 2010 and 2011, a monitoring programme (general surveillance and targeted surveys) was carried out in Emilia-Romagna and did not detect *A. citrulli*. In March 2012, the NPPO of Italy officially declared the successful eradication of *A. citrulli* from Emilia-Romagna. However, the NPPO pointed out that because melon and watermelon seeds continue to be imported from areas where the bacterium occurs, there is a high risk of new introductions, as this has already been illustrated by the detection of another outbreak in 2010 in Sardegna on grafted melon plants (still under eradication - see EPPO RS 2011/150). Therefore, monitoring programmes on *A. citrulli* will continue in Italy. The pest status of *Acidovorax citrulli* in Emilia-Romagna is officially declared as: **Absent, single case eradicated. The general surveillance as well as a targeted survey have not shown further foci in the two following years after the report. The monitoring and the survey will continue in the next growing seasons.**

Source: NPPO of Italy (2012-03).

Additional key words: eradication **Computer codes:** PSDMAC, IT

2012/103 First report of *Plasmopara obducens* in Serbia

In May 2010, symptoms resembling those of downy mildew were observed on *Impatiens walleriana* plants in a glasshouse near Mionica (Kolubarski district), in Serbia. Affected plants were severely stunted with mild mottling and yellowing on the upper leaf surface. The lower leaf surface was completely covered with a thick white fungus-like growth. Symptomatic leaves wilted very rapidly and fell prematurely, leaving plants with only a few of the youngest leaves and poorly (if any) developed flowers. Disease incidence was very high (nearly 100%), resulting in losses of more than 90%. Laboratory analysis (morphology, PCR, pathogenicity tests) confirmed the presence of *Plasmopara obducens* (formerly EPPO Alert List) in diseased plants. This is the first time that *P. obducens* is reported from Serbia. It is concluded that surveys are needed to determine the distribution and incidence of *P. obducens* on impatiens which is one of the most popular ornamentals in Serbia.

Source: Bulajić A, Vučurović A, Stanković I, Ristić D, Jović J, Stojković B, Krstić B (2011) First report of *Plasmopara obducens* on *Impatiens walleriana* in Serbia. *Plant Disease* **95**(4), p 490.

Additional key words: new record **Computer codes:** PLASOB, RS

2012/104 New data on quarantine pests and pests of the EPPO Alert List

By searching through the literature, the EPPO Secretariat has extracted the following new data concerning quarantine pests and pests included on the EPPO Alert List. The situation of the pest concerned is indicated in bold, using the terms of ISPM no. 8.

- **New records**

In Spain, *Blastopsylla occidentalis* (Hemiptera: Psyllidae) was detected for the first time in November 2009 on nursery plants of *Eucalyptus camaldulensis* in the province of Huelva (Andalucía). Further investigations showed that this eucalyptus psyllid also occurred in several other localities of the Huelva province, as well as in the Algarve, in Portugal. For the moment, only low populations of *B. occidentalis* were found (often co-existing with another introduced psyllid, *Glycaspis brimblecombei*) and no particular damage was observed (Pérez-Otero *et al.*, 2011).

In the Czech Republic, the presence of *Cydalima perspectalis* (Lepidoptera: Crambidae – formerly EPPO Alert List) was detected for the first time during faunistic studies carried out in the Podyjí National Park (Šumpich, 2011).

In Hungary, *Cydalima perspectalis* (Lepidoptera: Crambidae – formerly EPPO Alert List) was found for the first time in September 2011 in the Botanical Garden of the University of Sopron. The insect was caught in a light trap. The authors of this paper also report the presence of *C. perspectalis* in Slovenia on the basis of a personal communication with Dr Matjaž Jež (Sáfián and Horváth, 2011).

In Turkey, *Cydalima perspectalis* (Lepidoptera: Crambidae – formerly EPPO Alert List) was found for the first time in June 2011 in the campus of the Istanbul University. Further investigations detected the pest in other parks and gardens of the European side of Istanbul on *Buxus sempervirens* and *B. sempervirens* cv. 'Aureovariegata' (Hizal *et al.*, 2012).

Stephanitis takeyai (Heteroptera: Tingidae – formerly EPPO Alert List) was found for the first time in Hungary in July 2011. The pest was observed at Szombathely in the Kámoni Arboretum, feeding on the underside of leaves of *Pieris japonica* (Vétek *et al.*, 2012).

Source: Hizal E, Kose M, Yesil C, Kaynar D (2012) The new pest *Cydalima perspectalis* (Walker, 1859) (Lepidoptera: Crambidae) in Turkey. *Journal of Animal and Veterinary Advances* **11**(3), 400-403.
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Additional key words: new records **Computer codes:** BLSPOC, DPHNPE, STEPTA, CZ, ES, HU, PT, SI, TR

2012/105 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2011 and 2012 received since the previous report (EPPO RS 2011/250). 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
Agromyzidae	*Apium graveolens*	Vegetables	Vietnam	Switzerland	1
	Ocimum basilicum	Vegetables (leaves)	Vietnam	Germany	3
Bemisia	*Hypericum*	Cut flowers	Kenya	Italy	1
	Origanum vulgare	Vegetables (leaves)	Israel	Belgium	1
Bemisia tabaci	*Anubias barteri*	Plants for planting	Singapore	United Kingdom	1
	Corchorus	Vegetables (leaves)	Jordan	United Kingdom	1
	Cryptocoryne wendtii	Plants for planting	Singapore	United Kingdom	1
	Echinodorus	Plants for planting	Singapore	United Kingdom	1
	Echinodorus	Cut flowers	Singapore	United Kingdom	1
	Eryngium foetidum	Vegetables (leaves)	Vietnam	France	2
	Hygrophila salicifolia	Plants for planting	Thailand	United Kingdom	1
	Ipomoea batatas	Vegetables	Ghana	United Kingdom	1
	Limnophila	Vegetables (leaves)	Vietnam	France	1
	Limnophila aromatica	Vegetables (leaves)	Vietnam	France	4
	Ludwigia palustris	Plants for planting	Singapore	United Kingdom	1
	Manihot esculenta	Vegetables	Congo, Dem. Rep.	France	2
	Momordica	Vegetables	Sri Lanka	United Kingdom	1
	Ocimum	Vegetables (leaves)	Laos*	United Kingdom	1
	Ocimum	Vegetables (leaves)	Malaysia	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Colombia	Netherlands	1
	Ocimum basilicum	Vegetables (leaves)	Israel	Belgium	1
	Ocimum basilicum	Vegetables (leaves)	Israel	France	1
	Ocimum basilicum	Vegetables (leaves)	Israel	Switzerland	3
	Ocimum basilicum	Vegetables (leaves)	Israel	United Kingdom	5
	Ocimum basilicum	Vegetables (leaves)	Malaysia	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Nigeria	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	USA	United Kingdom	1
	Ocimum, Solidago	Vegetables (leaves)	Israel	United Kingdom	1
	Polygonum odoratum	Vegetables (leaves)	Vietnam	France	1
	Rosa	Cut flowers	Colombia	United Kingdom	1
	Rosa	Cut flowers	Zimbabwe	Netherlands	2
	Solidago	Cut flowers	Israel	United Kingdom	2
	Syngonium podophyllum	Plants for planting	Singapore	United Kingdom	1
Bemisia tabaci, Liriomyza sativae	*Ocimum basilicum*	Vegetables (leaves)	Israel	Latvia	1
Bemisia, Liriomyza	*Satureja hortensis*	Vegetables (leaves)	Israel	Belgium	1
Cecidomyidae	*Orchidaceae*	Cut flowers	Thailand	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Coleoptera	*Phalaenopsis*	Plants for planting	Taiwan	Spain	1
Cryptophlebia leucotreta	*Citrus sinensis*	Fruits	South Africa	Spain	2
Diaphania indica	*Momordica charantia*	Vegetables	Pakistan	Germany	1
***Diaphania indica*, Tephritidae (non-European), *Thrips* (suspect *T. palmi*)**	*Momordica charantia*	Vegetables	Kenya	Germany	1
Diaphania*, *Thrips	*Momordica charantia*	Vegetables	Kenya	Germany	2
Diptera	*Momordica cochinchinensis*	Vegetables	Bangladesh	United Kingdom	1
Elsinoe fawcettii	*Citrus limon*	Fruits	Argentina	Spain	1
Guignardia citricarpa	*Citrus limon, Citrus sinensis*	Fruits	South Africa	Netherlands	1
	Citrus paradisi	Fruits	South Africa	Netherlands	2
	Citrus paradisi	Fruits	South Africa	Spain	1
	Citrus sinensis	Fruits	Argentina	Spain	1
	Citrus sinensis	Fruits	Brazil	Netherlands	9
	Citrus sinensis	Fruits	Brazil	Spain	2
	Citrus sinensis	Fruits	South Africa	Netherlands	9
	Citrus sinensis	Fruits	South Africa	Spain	1
Helicotylenchus	*Hibiscus syriacus, Picea pungens, Robinia, Salix, Thuja orientalis*	Plants for planting	Moldova	Romania	1
Helminthosporium solani	*Solanum tuberosum*	Seed potatoes	Netherlands	Algeria	1
Leucinodes orbonalis	*Solanum melongena*	Vegetables	Malaysia	Belgium	2
	Solanum melongena	Vegetables	Malaysia	Germany	1
	Solanum melongena	Vegetables	Pakistan	Italy	2
	Solanum melongena	Vegetables	Vietnam	Germany	2
Liriomyza	*Apium graveolens*	Vegetables	Thailand	Denmark	1
	Apium graveolens	Vegetables	Vietnam	Denmark	2
	Apium graveolens	Vegetables	Vietnam	Germany	1
	Apium graveolens	Vegetables	Vietnam	United Kingdom	1
	Apium graveolens, Ocimum basilicum	Vegetables	Vietnam	Denmark	1
	Apium graveolens, Ocimum, Syzygium	Vegetables	Vietnam	United Kingdom	1
	Chrysanthemum	Cut flowers	Ecuador	United Kingdom	1
	Chrysanthemum morifolium	Cut flowers	Colombia	United Kingdom	2
	Eryngium	Cut flowers	Kenya	United Kingdom	1
	Gypsophila	Cut flowers	Israel	France	1
	Gypsophila	Cut flowers	Israel	Netherlands	1
	Gypsophila	Cut flowers	Israel	United Kingdom	1
	Ocimum	Vegetables (leaves)	Ethiopia	United Kingdom	2
	Ocimum	Vegetables (leaves)	Israel	United Kingdom	1
	Ocimum	Vegetables (leaves)	Kenya	United Kingdom	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Liriomyza* (cont.)**	*Ocimum*	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	1
	Ocimum	Vegetables (leaves)	Vietnam	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Egypt	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	India	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Israel	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Kenya	United Kingdom	3
	Ocimum basilicum	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Vietnam	Czech Rep.	1
	Ocimum basilicum	Vegetables (leaves)	Vietnam	Denmark	2
	Ocimum basilicum	Vegetables (leaves)	Vietnam	France	6
	Ocimum basilicum	Vegetables (leaves)	Vietnam	Germany	2
	Ocimum basilicum	Vegetables (leaves)	Vietnam	United Kingdom	9
Liriomyza huidobrensis	*Apium graveolens*	Vegetables	Vietnam	Sweden	3
	Aster	Cut flowers	Ecuador	Netherlands	2
	Chrysanthemum	Cut flowers	Ecuador	Netherlands	1
	Dianthus	Cut flowers	Ecuador	Netherlands	1
	Dianthus caryophyllus	Cuttings	Colombia	Netherlands	1
	Eryngium	Cut flowers	Kenya	Netherlands	13
	Gypsophila	Cut flowers	Kenya	Netherlands	8
	Ocimum basilicum	Vegetables (leaves)	Kenya	United Kingdom	1
Liriomyza sativae	*Ocimum basilicum*	Vegetables (leaves)	Israel	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Vietnam	United Kingdom	1
Liriomyza trifolii	*Apium graveolens*	Vegetables	Vietnam	Sweden	2
	Apium graveolens	Vegetables	Vietnam	United Kingdom	3
	Chrysanthemum	Cut flowers	Egypt	Netherlands	1
	Gypsophila	Cut flowers	Israel	Belgium	1
	Gypsophila	Cut flowers	Israel	Netherlands	2
	Ocimum	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Turkey	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Vietnam	United Kingdom	1
***Liriomyza,* Noctuidae**	*Ocimum basilicum*	Vegetables (leaves)	Vietnam	Germany	1
Monilinia fructicola	*Prunus persica* var. *nucipersica*	Fruits	Italy	Slovakia	1
Opogona sacchari	Unspecified	Plants for planting	Netherlands Antilles *	Cyprus	2
Pepino mosaic virus*, *Xanthomonas axonopodis* pv. *vesicatoria	*Solanum lycopersicum*	Seeds	China	Germany	1
Phytophthora ramorum	*Pieris japonica*	Plants for planting	Netherlands	Ireland	1
	Rhododendron	Plants for planting	Netherlands	Belgium	1
Plodia interpunctella	*Glycine max*	Stored products	China	Spain	1
	Helianthus annuus	Stored products	China	Spain	1
Pseudococcidae, Coccinellidae, Curculionidae, Thripidae, Aphidoidea	*Erica*	Cut flowers	South Africa	Germany	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Pyralidae	*Phoenix dactylifera*	Plants for planting	Tunisia	France	1
Ralstonia solanacearum	*Solanum tuberosum*	Ware potatoes	Czech Rep.	Slovakia	3
	Solanum tuberosum	Ware potatoes	Egypt	Croatia	1
Rhizoecus hibisci	*Ficus*	Plants for planting	China	Netherlands	1
Seiridium cardinale	*Cupressocyparis leylandii*	Plants for planting	Italy	Cyprus	1
	Cupressus macrocarpa	Plants for planting	Italy	Cyprus	1
Spodoptera	*Ocimum basilicum*	Vegetables (leaves)	Myanmar	United Kingdom	1
Spodoptera littoralis	*Rosa*	Cut flowers	Tanzania	Netherlands	1
	Rosa	Cut flowers	Uganda	Netherlands	1
	Rosa	Cut flowers	Zambia	Netherlands	1
	Rosa	Cut flowers	Zimbabwe	Netherlands	4
Spodoptera litura	*Orchidaceae*	Cut flowers	Thailand	United Kingdom	1
Thripidae	*Momordica*	Vegetables	Dominican Rep.	United Kingdom	2
	Momordica	Vegetables	India	United Kingdom	2
	Momordica	Vegetables	Pakistan	United Kingdom	1
Thrips	*Momordica charantia*	Vegetables	Dominican Rep.	United Kingdom	1
	Momordica charantia	Vegetables	India	Ireland	1
	Orchidaceae	Cut flowers	Thailand	Sweden	1
Thrips palmi	*Dendrobium*	Cut flowers	Thailand	Netherlands	1
	Momordica	Vegetables	Dominican Rep.	United Kingdom	2
	Momordica	Vegetables	India	United Kingdom	3
	Momordica	Vegetables	Pakistan	United Kingdom	3
	Momordica	Vegetables	Sri Lanka	United Kingdom	3
	Momordica charantia	Vegetables	India	Sweden	1
	Momordica charantia	Vegetables	India	United Kingdom	1
	Momordica charantia	Vegetables	Pakistan	United Kingdom	2
	Orchidaceae	Cut flowers	Thailand	Austria	1
Thysanoptera	*Momordica*	Vegetables	India	Switzerland	1
	Momordica charantia	Vegetables	Dominican Rep.	France	2
	Orchidaceae	Cut flowers	Thailand	Switzerland	1
	Solanum melongena	Vegetables	Dominican Rep.	France	3
Xanthomonas axonopodis* pv. *citri	*Citrus latifolia*	Fruits	Pakistan	United Kingdom	1
Xanthomonas axonopodis* pv. *vesicatoria	*Solanum lycopersicum*	Seeds	China	Germany	1
Xanthomonas fragariae	*Fragaria ananassa*	Plants for planting	Netherlands	Germany	1

- **Fruit flies**

Pest	Consignment	Country of origin	Destination	nb
Anastrepha	*Mangifera indica*	Dominican Rep.	France	1

Pest	Consignment	Country of origin	Destination	nb
Bactrocera	*Annona*	India	United Kingdom	1
	Mangifera	Sri Lanka	United Kingdom	2
	Mangifera indica	Sri Lanka	United Kingdom	1
	Momordica	Pakistan	United Kingdom	2
	Psidium	Sri Lanka	United Kingdom	1
	Psidium	Vietnam	United Kingdom	1
	Psidium guajava	Vietnam	United Kingdom	1
	Solanum melongena	Philippines	Switzerland	1
Bactrocera cucurbitae	*Momordica*	Sri Lanka	United Kingdom	1
Bactrocera dorsalis	*Mangifera indica*	Thailand	France	3
Bactrocera invadens	*Mangifera*	Ghana	United Kingdom	1
Bactrocera latifrons	*Capsicum frutescens*	Vietnam	France	6
Bactrocera zonata	*Annona*	Egypt	United Kingdom	2
	Benincasa hispida	Pakistan	France	1
	Psidium	Pakistan	United Kingdom	2
	Psidium	Pakistan	United Kingdom	1
Bactrocera, Conogethes punctiferalis	*Psidium*	Pakistan	United Kingdom	1
Ceratitis	*Capsicum*	Uganda	United Kingdom	1
	Capsicum annuum	Uganda	United Kingdom	2
	Prunus	South Africa	United Kingdom	1
Ceratitis capitata	*Annona*	Egypt	United Kingdom	1
Dacus	*Momordica*	Kenya	United Kingdom	3
	Momordica charantia	Kenya	United Kingdom	1
Dacus ciliatus	*Momordica*	Kenya	United Kingdom	2
Tephritidae (non-European)	*Capsicum*	Ghana	Germany	1
	Capsicum frutescens	Vietnam	France	13
	Citrus maxima	China	Netherlands	1
	Citrus reticulata	South Africa	Netherlands	1
	Diospyros	Israel	United Kingdom	1
	Mangifera indica	Dominican Rep.	France	3
	Mangifera indica	Dominican Rep.	Netherlands	1
	Mangifera indica	Sri Lanka	United Kingdom	1
	Mangifera indica	Uganda	United Kingdom	1
	Mangifera indica, Psidium guajava	Sri Lanka	Germany	1
	Momordica	Bangladesh	Germany	1
	Momordica	India	United Kingdom	1
	Momordica	Kenya	United Kingdom	1
	Momordica charantia	Kenya	United Kingdom	1
	Momordica charantia	Sri Lanka	France	4
	Momordica charantia	Vietnam	Germany	1
	Prunus persica var. *nucipersica*	Zimbabwe	Netherlands	1
	Psidium guajava	India	Switzerland	1
	Psidium guajava	Pakistan	France	1

Pest	Consignment	Country of origin	Destination	nb
Tephritidae (non-European) (cont.)	*Psidium guajava*	Pakistan	Switzerland	1
	Psidium guajava	Pakistan	United Kingdom	1
	Psidium guajava	Thailand	France	1
	Syzygium samarangense	Thailand	Switzerland	1
	Syzygium samarangense	Vietnam	Netherlands	1
	Syzygium samarangense	Vietnam	Switzerland	2

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Bostrichidae	*Quercus rubra, Quercus alba, Carya tomentosa, Juglans cinerea, Juglans nigra*	Wood and bark	USA	Germany	1
	Unspecified	Wood packing material (crate)	India	Germany	3
	Unspecified	Wood packing material (pallet)	India	Germany	2
Bursaphelenchus	Coniferae	Wood and bark	Portugal	Germany	1
Bursaphelenchus mucronatus	Unspecified	Wood packing material (pallet)	Ukraine	Latvia	1
Bursaphelenchus xylophilus	*Pinus palustris*	Wood and bark (wood chips)	USA	Belgium	1
Halyomorpha halys	Unspecified	Wood packing material (pallet)	USA	Germany	1
Heterobostrychus	Unspecified	Wood packing material (pallet)	China	Germany	1
	Unspecified	Wood packing material (pallet)	Taiwan	Germany	1
Hylotrupes bajulus	Unspecified	Wood packing material	Ukraine	Lithuania	1
Insecta	*Abies*	Wood and bark	Canada	United Kingdom	1
	Unspecified	Wood packing material (pallet)	Ecuador	Lithuania	1
Lyctus africanus	Unspecified	Wood packing material (crate)	India	Germany	1
Monochamus	*Larix*	Wood and bark	Russia	Germany	2
	Unspecified	Wood and bark	Ukraine	Cyprus	1
Platypodidae	Fabaceae	Wood and bark	Congo, Dem. Rep.	Spain	1
Platypodidae, Scolytidae	*Aucoumea klaineana*	Wood and bark	Congo	Spain	2
	Caesalpinia	Wood and bark	Cameroon	Spain	1
	Entandrophragma candollei	Wood and bark	Central African Rep.	Spain	2
	Entandrophragma cylindricum	Wood and bark	Cameroon	Spain	1
	Entandrophragma cylindricum	Wood and bark	Central African Rep.	Spain	1
	Entandrophragma cylindricum	Wood and bark	Congo	Spain	2
	Entandrophragma cylindricum	Wood and bark	Congo, Dem. Rep.	Spain	2
	Guarea cedrata	Wood and bark	Cameroon	Spain	1
	Fabaceae	Wood and bark	Cameroon	Spain	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Scolytidae	Fabaceae	Wood and bark	Congo, Dem. Rep.	Spain	1
Sinoxylon	Unspecified	Wood packing material	Vietnam	Germany	1
	Unspecified	Wood packing material (crate)	Bangladesh	Germany	1
	Unspecified	Wood packing material (crate)	China	Germany	1
	Unspecified	Wood packing material (crate)	India	Germany	12
	Unspecified	Wood packing material (crate)	Indonesia	Germany	2
	Unspecified	Wood packing material (crate)	Singapore	Germany	1
	Unspecified	Wood packing material (pallet)	India	Germany	7

Source: EPPO Secretariat, 2012-05.

2012/106 The IPPC review of the global status of aquatic plants, their uses and the risks they represent

The International Plant Protection Convention (IPPC) has recently published a review of the global status of aquatic plants, including their uses and the risks they represent. In addition to the uses and benefits of aquatic plants, this review presents important species that directly or indirectly threaten economically important crops or wild species.
A list of aquatic plants that are considered to cause economic and environmental damage worldwide has been assembled in the IPPC review and is presented in the table below with the species name and family, their native range, growth habit and habitat:

Species	Native range	Growth habit	Habitat
Alternanthera philoxeroides (Amaranthaceae, EPPO Alert List)	South America	Emergent	Freshwater
Caulerpa taxifolia (Caulerpaceae)	Caribbean Sea, Indian Ocean	Algae	Marine
Ceratophyllum demersum (Ceratophyllaceae)	Cosmopolitan	Submersed	Freshwater
Didymosphenia geminata (Gomphonemataceae)	Northern hemisphere	Algae	Freshwater
Eichhornia crassipes (Pontederiaceae, EPPO A2 List)	South America	Floating	Freshwater
Hydrilla verticillata (Hydrocharitaceae, EPPO Alert List)	Australasia	Submersed	Freshwater
Leersia hexandra (Poaceae)	Pantropical	Emergent	Freshwater
Myriophyllum aquaticum (Haloragaceae, EPPO List of Invasive Alien Plants)	South America	Submersed/Emergent	Freshwater
Myriophyllum spicatum (Haloragaceae)	Eurasia, North Africa	Submersed	Freshwater
Phragmites australis (Poaceae)	Cosmopolitan	Emergent	Freshwater
Pistia stratiotes (Araceae, EPPO Alert List)	South America	Floating	Freshwater
Salvinia auriculata (Salviniaceae)	Tropical Americas	Floating	Freshwater
Salvinia molesta (Salviniaceae, EPPO Alert List)	South America	Floating	Freshwater
Spartina anglica (Poaceae, horticultural hybrid)	/	Emergent	Brackish
Undaria pinnatifida (Alariaceae, alga)	Japan Sea	Algae	Marine

The IPPC review included the following recommendations:

- Caution must be exercised in order to avoid the introduction of a non-native pest into a new environment. An appropriate risk analysis should be performed by the National Plant Protection Organization (NPPO) of each country before introducing a new species into aquaculture or a cultivation programme.
- NPPOs should regulate those species that are not already in their area of responsibility, if possible to prevent their introduction, based on an appropriate risk analysis.
- Some phytosanitary measures should be implemented by NPPOs to contain the spread of some known regulated pests in the ornamental trade.
- A database could be developed by the IPPC to disseminate best management practices for aquatic invasive alien plants.

Source: Wersal RM & Madsen JD (2012) Aquatic plants their uses and risks. International Plant protection Convention, FAO Rome. 94 pp.
https://www.ippc.int/largefiles/2012/IPPC-IRSS_Aquatic_Plants_Study_2012-Final.pdf

Additional key words: invasive alien plants, aquatic plants **Computer codes:** ALRPH, CEYDE, EICCR, HYLLI, KAATA, LERHE, MYPBR, MYPSPS, PHRCO, PIIST, SAVAU, SAVMO, SPTAN

2012/107 The role of eutrophication of waters in the management of *Eichhornia crassipes* in South Africa

South Africa has some of the most eutrophic aquatic systems in the world, as a result of the adoption of inappropriate water treatments (use of unnecessarily high doses of phosphorus in the 1970s). In addition, to satisfy the water demand, large impoundments (e.g. dams, reservoirs) and weirs in rivers have been constructed. This has reduced the flow in the rivers, creating still or slow-moving water bodies that are ideal for aquatic plant invasions. In these conditions, *Eichhornia crassipes* (Pontederiaceae, EPPO A2 List) has become highly damaging despite the implementation of a biological control programme in South Africa.
An analysis of published and unpublished laboratory studies investigated the combined effects of phosphorus and nitrogen water nutrient concentration and of the following biological control agents: *Cornops aquaticum* (Orthoptera: Acrididae), *Eccritotarsus catarinensis* (Heteroptera: Miridae), *Neochetina bruchi*, *N. eichhorniae* (Coleoptera: Curculionidae), *Sameodes albiguttalis* (Lepidoptera: Crambidae), *Orthogalumna terebrantis* (Acari: Galumnidae). This review showed that water nutrient status was more important than the presence or absence of biological control agents in influencing *E. crassipes* growth, and this was also confirmed by long term field data analysis.
The first step in any *E. crassipes* control programme should therefore be to reduce the phosphorus and nitrogen content of the water body.

Source: Coetzee J & Hill M P (2012) The role of eutrophication in the biological control of water hyacinth, *Eichhornia crassipes*, in South Africa. *Biocontrol* **57**(2), 247-261.

Additional key words: invasive alien plants, management **Computer codes:** CORPAQ, EICCR, NEONBR, NEONEI, ORTGTE, ZA

2012/108 Damage and benefit caused by weeds

Various studies on weeds show very large differences between their competitive abilities. In the United Kingdom, the most competitive species in cereals have been determined to be, by order of importance: *Avena fatua* (Poaceae), *Galium aparine* (Rubiaceae), *Tripleurospermum maritimum* subsp. *inodorum* (Asteraceae), *Alopecurus myosuroides* (Poaceae), *Papaver rhoeas* (Papaveraceae), *Lamium purpureum* (Lamiaceae) and *Veronica hederifolia* (Plantaginaceae). In studies performed near Madrid in Spain, the competitivity of several weeds was ordered as follows: *Avena sterilis* (Poaceae), *Bromus diandrus* (Poaceae), *Galium tricornutum* (Rubiaceae) and *Veronica hederifolia* (Plantaginaceae). During a three year study, yield losses near Madrid were estimated to be 12, 37 and 75% for densities of *Avena fatua* of respectively 170, 220 and 1200 plants/m^2.
The impacts of weeds have been the object of various studies, and with the growing interest in biodiversity there are nowadays attempts to consider the benefits of these species. The majority of data on these aspects has been assembled in the United Kingdom, looking at the advantages of the presence of weeds for insects and birds. The value of some weeds for insects and birds as well as their competitivity with cereal crops is summarized in the table below:

Weed species	Value for insects [1]	Value for birds [1]	Competition with wheat [2]
Avena fatua (Poaceae)	0	0	5
Fallopia convolvulus (Polygonaceae)	?	3	17
Fumaria officinalis (Papaveraceae)	0	1	63
Galium aparine (Rubiaceae)	3	0	2
Lamium purpureum (Lamiaceae)	2	0	63
Papaver rhoeas (Papaveraceae)	1	?	13
Polygonum aviculare (Polygonaceae)	3	3	50
Sinapis arvensis (Brassicaceae)	3	2	13

[1] 0: no importance; 1: important for a few species; 2: important for some species; 3: important for many species
[2] Density of weeds (plants/m²) that cause a 5% yield loss in wheat.

Source: Fernández-Quintanilla C & Dorado J (2007) [Damages and benefits caused by weeds]. *Malherbologia* **193**, 12-16 (in Spanish).

Additional key words: invasive alien plants

Computer codes: ALOMI, AVEFA, AVEST, BRODI, FUMOF, GALAP, GALTC, LAMPU, MATIN, PAPRH, POLAV, POLCO, SINAR, VERHE, ES, GB

2012/109 Diversity of weeds in highland wheat crops of Northern Ethiopia

In sub-Saharan Africa, Ethiopia ranks second to South Africa in terms of both acreage sown and production of wheat. Heavy infestations of weeds are often highlighted as a cause for low wheat yield, and yield loss can range between 10% and 70%. The majority of farmers in Ethiopia use a cheap unclean mixture of wheat seed for sowing, which is considered to enhance the spread of weeds. A field survey has been undertaken in the area of Debark (in 3 administrative units), in North Gondar in the highlands of Ethiopia. As a result 24 weeds with their frequency and density were listed as follows:

Weed species	Frequency (%)	Density (%)
Andropogon abyssinicus (Poaceae)	3.7	0.4
Avena vaviloviana (Poaceae)	42.6	6.5
Bidens prestinaria (Asteraceae)	9.3	0.7
Bromus pectinatus (Poaceae)	37	7
Chrysanthemum segetum (Asteraceae)	84.3	53.6
Commelina benghalensis (Commelinaceae)	16.7	1.5
Cyperus rotundus (Cyperaceae)	25	7.8
Digitaria abyssinica (Poaceae)	9.3	1.2
Erucastrum arabicum (Brassicaceae)	12	1
Galinsoga parviflora (Asteraceae)	42.6	10.7
Galium spurium (Rubiaceae)	66.7	24.9
Guizotia scabra (Asteraceae)	25	2.4
Lolium temulentum (Poaceae)	29.6	3.1
Medicago polymorpha (Fabaceae)	65.7	13.5
Oxalis latifolia (Oxalidaceae)	3.7	0.5
Phalaris paradoxa (Poaceae)	36.1	9.8
Plantago lanceolata (Plantaginaceae)	9.3	0.8
Polygonum aviculare (Polygonaceae)	33.3	3.9
Polygonum nepalense (Polygonaceae)	85.2	40.7
Rumex bequaertii (Polygonaceae)	35.2	3
Snowdenia polystachya (Poaceae)	26.8	6.2

Weed species	Frequency (%)	Density (%)
Spergula arvensis (Caryophyllaceae)	63	18.7
Stellaria media (Caryophyllaceae)	36.1	5.4
Trifolium rueppellianum (Fabaceae)	18.5	3.5

Source: Asres B & Das T K (2011) Diversity and integrated management of weeds in highland wheat of Northern Ethiopia. *Plant Protection Quarterly* **26**(1), 8-15.

Additional key words: invasive alien plants, wheat

Computer codes: AVEVA, BROPE, CHYSE, COMBE, CYPRO, DIGSC, ERWAR, GALSP, GASPA, GUISC, LOLTE, MEDPO, OXALA, PHAPA, PLALA, POLAV, POLNE, RUMBE, SNWPO, SPRAR, STEME, TRFRR, ET

2012/110 When are eradication campaigns successful?

Eradication is the application of control measures aiming at extirpating an entire population of a pest from an area or from a management unit. Previous studies had not statistically evaluated which factors affect eradication success. A unique global dataset of 136 eradication campaigns against 75 species (invasive alien invertebrates, plants and plant pathogens) was assembled. This dataset was statistically analyzed to consider whether factors such as (i) reaction time, (ii) extent of infestation, (iii) knowledge about the biology of the invading species, and (iv) whether the campaign was on an island or on the mainland are correlated with eradication success.
Of these variables, it appeared that only the spatial extent of the infestation was significantly related to the eradication campaign outcome: local campaigns were more successful than regional or national campaigns. Reaction time, the level of knowledge and insularity were not found to be related to eradication success. It appeared from the analysis that there were no obvious differences in the eradication success among pests or biogeographic regions.
It is therefore recommended that eradication measures concentrate on the very early phase of invasions, when infestations are still relatively small.

Source: Pluess T, Cannon R, Jarošik V, Pergl J, Pyšek P & Bacher S (2012) When are eradication campaigns successful? A test of common assumptions. *Biological Invasions* DOI: DOI 10.1007/s10530-011-0160-2
http://www.ibot.cas.cz/invasions/pdf/Pluess%20et%20al_eradications_BiolInv2012.pdf

Additional key words: invasive alien species, eradication

2012/111 A comparative assessment of existing policies on invasive species in the EU Member States and in selected OECD countries

As announced in previous notes (EPPO RS 2011/184, 2012/022), the European Commission is developing a dedicated legislative instrument on Invasive Alien Species (IAS). An assessment of the regulations, policies and other initiatives in place or under development in the 27 EU Member States and in 4 selected OECD countries (namely Australia, Canada, New Zealand and the United States) has therefore been conducted.
The study analyzed the conformity of the Member States definitions of “alien species” and “invasive alien species” with the Convention on Biological Diversity definitions. There is great variability in the way IAS are defined, both across and within EU Member States.

A considerable number of policies/initiatives related to IAS exist in the 27 Member States, however these seem to be very fragmented and lack coordination between sectors (e.g. in between forestry and agriculture sectors). Considerable policy gaps remain, in particular regarding early-warning, identification of risks and management and control of IAS. Some Member States are waiting for the EU IAS legislative instrument before developing their own strategy, so as to ensure consistency with it.
Citizen science is increasingly used to report species distributions over wide spatiotemporal scales, with demonstrated success for early-warning. Nevertheless, early warning and alert measures appear to be largely missing in most Member States. Another major gap concerns the control and management of IAS, with little mandatory follow-up and assessment of the actions undertaken.
Some forms of cost-recovery mechanisms for intentional introductions are also in place in most Member States, such as payment of fees for inspections, permits and licenses, fines for contravening the legislation.

Source: Sonigo P, Turbé A, Berman S, Reilly K & Nyegaard Hvid H (2011) A comparative assessment of existing policies on invasive species in the EU Member States and in selected OECD countries. Final report. European Commission (DG Env), 258 pp. http://invasives.biodiversityireland.ie/wp-content/uploads/BIO_IASPolicies2011.pdf

Sonigo P, Turbé A, Berman S, Reilly K & Nyegaard Hvid H (2011) A comparative assessment of existing policies on invasive species in the EU Member States and in selected OECD countries. Country Assessments. European Commission (DG Env), 500 pp. http://invasives.biodiversityireland.ie/wp-content/uploads/IAS_policies_country-assessments2011.pdf

Additional key words: Invasive alien species, EU

2012/112 Uncertainty in invasive alien species listing

Lists of invasive alien species (IAS) are essential for preventing, controlling and reporting on the state of biological invasions. However, these lists suffer from a range of errors, with serious consequences for their use in science, policy and management. Errors and causes of uncertainty were collated and classified in IAS listing and consisted of: (i) human error (e.g. erroneous information in data entry), (ii) incomplete information searches, (iii) species misidentification, (iv) error on the information on the presence and extent of the species, (v) use of data and knowledge which are not documented or not readily or widely accessible, (vi) inadequate indigenous range information, (vii) limited data on biodiversity impacts, (viii) diverging definitions of "invasive".
These errors have impacts on the number of IAS listed. Insufficient data on the identity, distribution and impacts of IAS is particularly problematic and may result in species being misidentified, alien species not being recognized, their impacts not being understood, or the level of risk being incorrectly categorized.
An important element for improving the reliability, transparency and credibility of expert contributions to the listing process is the use of models, systems, definitions and structured rules to improve the transparency and repeatability of listing decisions. Other important elements include training, awareness and deliberate consideration of potential biases and reasons underlying incorrect judgments and differences in opinion.
This study mentions that a distinction exists between "uncertainty due to a lack of knowledge" (epistemic) and "uncertainty due to variability inherent in the system under

consideration" (ontogenic). Uncertainties in the IAS listing process are currently almost exclusively epistemic.

Source: McGeoch M A, Spear D, Kleynhans E J & Marais E (2012) Uncertainty in invasive alien species listing. *Ecological applications* **22**(3), 959-971.

Additional key words: invasive alien plants, listing

2012/113 The EU project PRATIQUE outcomes for invasive alien plants

The EPPO Decision-support scheme (DSS) for Pest Risk Analysis (PRA) was largely revised by the PRATIQUE EU project, and these outcomes are described in 15 articles published in the Bulletin OEPP/EPPO Bulletin 42(1).
PRATIQUE revisions to the EPPO DSS increased transparency, user friendliness and consistency for PRAs on invasive alien plants. The applicability of this new scheme for invasive alien plants is illustrated with the examples of *Polygonum perfoliatum* (Polygonaceae, EPPO A2 List) and *Eichhornia crassipes* (Pontederiaceae, EPPO A2 List). Specific improvements in the EPPO Decision-support scheme for pest risk analysis for invasive alien plants have been outlined by comparing the risk analysis procedures with EPPO schemes before and after the project.
One of the numerous improvements to the scheme is the development of a new protocol to assess the current and potential environmental impacts of alien plants.

Source: Steffen K, Schrader G, Starfinger U, Brunel S & Sissons A (2012) Pest risk analysis and invasive alien plants: progress through PRATIQUE. *Bulletin OEPP/EPPO Bulletin* **42**(1), 28–34.
http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2338

Kenis M, Bacher S, Baker RHA, Branquart E, Brunel S, Holt J, Hulme PE, MacLeod A, Pergl J, Petter F, Pyšek P, Schrader G, Sissons A, Starfinger U & Schaffner U (2012) New protocols to assess the environmental impact of pests in the EPPO decision-support scheme for pest risk analysis. *Bulletin OEPP/EPPO Bulletin* **42**(1), 21–27.
http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2338

Additional key words: invasive alien plants, research **Computer codes:** EICCR, POLPF

2012/114 Local projects to manage invasive alien plants in the USA

Stewardship Networks have been established in the USA to link people willing to protect, restore and manage natural areas such as residents, teachers and students, with experts, such as directors of botanic gardens or academics. In 2011, Stewardship Networks partnered 152 groups and had 10 648 participants during events to protect, restore and manage natural lands and waters, some of which were dealing with the management of invasive alien plants.
One of the projects on invasive alien plants is the "Garlic Mustard Challenge": people remove *Alliaria petiolata* (Brassicaceae) and report the weight (in pounds) of plant material removed on the web site. In 2012, the goal is to remove 200 000 pounds (more than 90 000 kg).

Source: Invasive Plant News Website.
http://invasiveplantnews.com/2012/04/25/lisa-brush-the-founder-and-executive-director-of-the-stewardship-network-brings-people-together/

The Stewardship Network Website.
http://www.stewardshipnetwork.org/site/c.hrLOKWPILuF/b.1361967/k.755C/The_Stewardship_Network.htm

Additional key words: invasive alien plants, communication **Computer codes:** ALAPE, US