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CONTENTS

2000/022 New data on quarantine pests

By browsing through the literature, the EPPO Secretariat has extracted the following new data concerning quarantine pests.

- **New geographical records**

Anastrepha striata occurs on *Psidium guajava* in Monagas state, Venezuela. Review of Agricultural Entomology, 88(1), p 18 (131).

In Argentina, *Heterodera glycines* (EPPO A1 quarantine pest) was found on soybean in two localities of Cordoba province. Nematological Abstracts, 68(4), p 240 (1844).

- **Detailed records**

Aphelenchoides besseyi (EPPO A2 quarantine pest) was detected on 146 rice samples out of 1653, from 4 different rice-growing areas in Andhra Pradesh, India. Nematological Abstracts, 68(4), p 238 (1830).

In Iran, severe outbreaks of *Erwinia amylovora* (EPPO A2 quarantine pest) were observed in several orchards and a few nurseries in Tehran and west Azerbaijan provinces, during 1992-1997. Yield losses were essentially seen on quince (*Cydonia oblonga*). Review of Plant Pathology, 79(1), p 25-26 (188).

In Italy, *Erwinia amylovora* (EPPO A2 quarantine pest) is reported for the first time in July 1999 from the region near the Brenner pass (Colle Isarco, Vitipeno) in Trentino-Alto Adige, on pears. Review of Plant Pathology, 79(2), p 135-136 (1051).

Plasmopara halstedii (EU Annexes) occurs in Karnataka, India. Review of Plant Pathology, 79(2), p 161 (1256).

In Egypt, surveys were carried on peaches, plums and apricots from 1987 to 1997 to study the incidence of plum pox potyvirus (EPPO A2 quarantine pest). Virus incidence ranged between 2.2 to 57.9 % in the localities surveyed: Fayoum, Giza (Middle Egypt), Dakahlia, Qualubia, Menoufiya and Sharkia (lower Egypt). Highest incidence was observed in Fayoum. Review of Plant Pathology, 79(2), p 138 (1073).

During the NAPPO Annual Meeting, it was reported that *Rhagoletis mendax* (EPPO A1 quarantine pest), which is subjected to an eradication programme, was found once in Ontario in 1999 (one suspect find) and is present in Québec on north of St Laurent.

Scirtothrips dorsalis (EPPO A1 quarantine pest) is present in Haryana, India. Review of Agricultural Entomology, 88(1), p 29 (210).

Stenocarpella maydis (EPPO A2 quarantine pest) occurs in Henan, China. Review of Plant Pathology, 79(2), p 117 (900).

Xanthomonas vesicatoria (EPPO A2 quarantine pest) was isolated from sweet pepper (*Capsicum annuum*) and tomato, in Beijing, Shanxi, Neimenggu, and Yunnan, China. Review of Plant Pathology, 79(2), p 148 (1153).

Source: **EPPO Secretariat, 2000-01.**
Nematological Abstracts, 68(4). December 1999.
Review of Agricultural Entomology, 88 (1). January 2000.
Review of Plant Pathology, 79(1 & 2). January & February 2000.
NAPPO Annual Meeting, 1999-10-19/22, Cancún (MX).

Additional key words: new records, detailed records

Computer codes: ANSTST, APLOBE, DIPMA, ERWIAM, HETDGL, PLASHA, PLPXXX, RHAGME, SCITDO, XANTVE, XANTVE, AR, CA, CN, EG, IN, IR, VE

2000/023 First report of *Xanthomonas axonopodis* pv. *dieffenbachiae* in Italy

In Italy, it has recently been reported that *Xanthomonas axonopodis* pv. *dieffenbachiae* (EPPO A1 quarantine pest) was isolated from stems and leaves of wilted *Anthurium andreanum* plants cultivated under glasshouse in one firm in Pompei (Campania). Among the six cultivars grown on the premises, the most heavily affected (80-100 %) were cvs. Tropical and Laguna. This is the first report of *Xanthomonas axonopodis* pv. *dieffenbachiae* in Italy.

Source: Zoina, A.; Raio, A.; Spasiano, A. (1999) Observations on a new bacterial disease of *Anthurium* in Italy.
Abstract of a paper presented at the 7th Meeting of the Italian Phytopathological Society (Piacenza, IT, 1999-09-23/24).
Journal of Plant Pathology, 81(3), p 241.

Additional key words: new record

Computer codes: XANTDF, IT

2000/024 First report of potato spindle tuber viroid in Costa Rica

In 1997/1998 symptoms of leaf roll, dwarfism, chlorosis and occasional leaf necrosis were observed in several potato (*Solanum tuberosum*) fields in Cartago, the main potato-growing region of Costa Rica. Leaf samples from 122 symptomatic potato plants (cvs Atzimba, Floresta, Idiafrit, Birris) were collected from 10 plots and tested (dot blot hybridization, biological test on tomato *Lycopersicon esculentum* cv. Super Marmande). Results showed the presence of potato spindle tuber viroid (EPPO A2 quarantine pest) in diseased samples. This is the first report of potato spindle tuber viroid in Costa Rica.

Source: Badilla, R.; Hammond, R.; Rivera, C. (1999) First report of potato spindle tuber viroid in Costa Rica.
Plant Disease, 83(11), p 1072.

Additional key words: new record **Computer codes:** POSTXXX, CR

2000/025 First report of tomato yellow leaf curl begomovirus in Morocco

In July 1998, tomato plants showing shortened internodes, reduced leaf size and leaf curling were observed in the coastal region near Casablanca, Morocco. In September 1998, more than 130 ha of outdoor and protected tomato crops were affected by the disease. Crop losses ranged between 20 to 100 %. Similar symptoms were also seen in tomato crops in the north-eastern region of Morocco. During the same period, high populations of *Bemisia tabaci* (EPPO A2 quarantine pest) were observed on tomatoes, capsicums and weeds (*Sonchus oleraceus*, *Chenopodium*, *Malva parviflora*, *Datura stramonium*). Tomato yellow leaf curl begomovirus (EPPO A2 quarantine pest) was identified by PCR in symptomatic tomato samples. This is the first report of tomato yellow leaf curl begomovirus in Morocco. The authors noted that during the 1996/97 growing season, similar symptoms had already been observed by a farmer in the Casablanca region on imported, grafted tomatoes.

Source: Peterschmitt, P.; Granier, M.; Aboulama, S. (1999) First report of tomato yellow leaf curl geminivirus in Morocco.
Plant Disease, 83(11), p 1074.

Additional key words: new record **Computer codes:** TMYLCXX, MA

2000/026 First report of tomato yellow leaf curl begomovirus in Mexico

In Mexico, since the introduction of tomato yellow leaf curl begomovirus (EPPO A2 quarantine pest) into Cuba and later Florida (US), tomato and sweet pepper-growing areas of Yucatán Peninsula are being monitored for this virus. Other Geminiviridae such as pepper huasteco, Texas pepper and tomato mottle begomoviruses are also surveyed (using PCR techniques), as they can cause similar symptoms. From December 1996 until March 1999, in most cases diseased samples of tomato or pepper were infected by pepper huasteco or Texas pepper begomoviruses. However, in March 1999, 3 tomato samples collected during 2 seasons (winter 1996 and 1997) in Dizdzantun and Yobain counties (north-east of Mérida, Yucatán) were found infected by tomato yellow leaf curl begomovirus (isolates similar to TYLCV-Is). This is the first report of tomato yellow leaf curl begomovirus in Mexico. It appears that the current incidence of the disease is low and that the virus is spreading slowly, as since this first finding only two more infected samples have been found. However, it is stressed that further studies are needed to confirm the actual distribution of tomato yellow leaf curl begomovirus in Yucatán.

Source: Ascencio-Ibáñez, J.T.; Diaz-Plaza, R.; Méndez-Lozano, J.; Monsalve-Fonnegra, Z.I.; Argüello-Astorga, G.R.; Rivera-Bustamante, R.F. (1999) First report of tomato yellow leaf curl geminivirus in Yucatán, Mexico.
Plant Disease, 83(12), p 1178.

Additional key words: new record **Computer codes:** TMYLCX, MX

2000/027 First report of tomato yellow leaf curl begomovirus on *Capsicum annuum* in Spain

In southern Spain, tomato crops have been affected by tomato yellow leaf curl begomovirus (EPPO A2 quarantine pest) since 1992. In 1997, the virus was also found on bean crops (see EPPO RS 99/129). In summer 1999, sweet pepper plants (*Capsicum annuum*) grown in a glasshouse in Almería showed clear leaf interveinal and marginal chlorosis, and upward curling of leaflet margins. Samples were tested (Southern blot hybridization and PCR), and revealed the presence of tomato yellow leaf curl begomovirus (Israeli type of isolate: TYLCV-Is). This is the first time that tomato yellow leaf curl begomovirus has been detected in capsicum crops in Spain. Further studies are continuing to determine whether the presence of TYLCV-Is is responsible for the development of symptoms as described above.

Source: Reina, J.; Morilla, G.; Bejarano, E.R.; Rodríguez, M.D.; Janssen, D. (1999) First report of *Capsicum annuum* plants infected by tomato yellow leaf curl virus.
Plant Disease, 83(12), p 1176.

Additional key words: new host plant **Computer codes:** TMYLCX

2000/028 Studies on the epidemiology of tomato yellow leaf curl begomovirus in Spain

Tomato yellow leaf curl begomovirus (TYLCV - EPPO A2 quarantine pest) was first reported in Spain in 1992 (EPPO RS 93/026). Since then, it has spread to the main vegetable-producing regions of southern and south-eastern Spain where it is a limiting factor for tomato production during summer and autumn (up to 100 % losses can be reached). So far, TYLCV-Sr isolates were involved in outbreaks, but more recently in the same regions, abnormally severe outbreaks are observed and are associated with TYLCV-Is. Studies have been carried out on the possible factors responsible for this displacement: competition between TYLCV-Sr and TYLCV-Is in tomato plants, transmission by local biotypes (B and Q) of *Bemisia tabaci*, and presence in weeds or other crops. Results showed that there is apparently no competition between TYLCV-Sr and TYLCV-Is in tomato plants. TYLCV-Is is more efficiently transmitted by the local biotypes of *B. tabaci* than TYLCV-Sr. Concerning weeds, both types of isolates are rarely found in wild plants growing around tomato fields. But *Datura stramonium* and S*olanum nigrum* may be possible reservoirs for the virus. More significantly, it was found that bean (*Phaseolus vulgaris*) is a host plant of TYLCV-Is but not of TYLCV-Sr. Bean is often cultivated between tomato crops and can act as a reservoir for the virus. The authors concluded that the cultivation of bean which can host TYLCV-Is between tomato

crops and the efficiency of local biotypes of *B. tabaci* to transmit TYLCV-Is are probably two factors responsible for the displacement of TYLCV-Sr by TYLCV-Is in Spain.

Source: Sánchez-Campos, S.; Navas-Castillo, J.; Camero, R.; Soria, C.; Díaz, J.A.; Moriones (1999) Displacement of tomato yellow leaf curl virus (TYLCV)-Sr by TYLCV-Is in tomato epidemics in Spain.
Phytopathology, 89(11), 1038-1043.

Additional key words: epidemiology **Computer codes:** TMYLCX

2000/029 Situation of tomato yellow leaf curl begomovirus in Florida (US)

In the early 1990s, tomato yellow leaf curl begomovirus (TYLCV, EPPO A2 quarantine pest) appeared in the Caribbean, in Cuba, Dominican Republic and Jamaica. It is thought that it entered USA in Dade county, Florida in late 1996 or early 1997 (see EPPO RS 97/169). Sequence analysis showed that the virus in Florida was 99% identical with TYLCV-Is from Dominican Republic. Recently, TYLCV has also been detected in south Georgia (see EPPO RS 99/077). In July 1997, in Dade county, infected tomato plants were found in two retail production sites of transplants. In 1997/1998 diseased plants were detected in almost all counties which commercially produce tomatoes (Broward, Collier, Dade, Hillsborough, Lee, Manatee, Marion, Palm Beach, St Lucia). It is thought that the movement of infected transplants is the most important means of dissemination of the disease, in particular via retail garden centres. Infected tomatoes planted in private gardens appear to be a source of TYLCV for nearby commercial nurseries and tomato production fields. Highest rates of infection in 1997/98 were recorded in Dade and Palm Beach counties (up to 15 % in some fields), but elsewhere the incidence was low. Measures are taken in Florida in particular to prevent spread to other states. Since the first findings, growers have been informed and encouraged to manage the disease (e.g. roguing of infected plants, implementation of integrated pest management programmes against whiteflies). Movement of plants such as tomato, tobacco and lisianthus (*Eustoma grandiflorum*) from Florida to other states is regulated. These plants must have been found free from whiteflies (inspected twice a week) and strict control measures should have been taken during their production to exclude whiteflies from the production house. In Florida, eradication is not considered feasible.

Source: Polston, J.E.; McGovern, R.J.; Brown, L.G. (1999) Introduction of tomato yellow leaf curl virus in Florida and implications for the spread of this and other geminiviruses of tomato.
Plant Disease, 83(11), 984-988.

Additional key words: detailed record **Computer codes:** TMYLCX, US

2000/030 Transmission of tomato yellow leaf curl begomovirus by *Bemisia tabaci* to imidacloprid-treated and untreated tomato plants

Control of tomato yellow leaf curl begomovirus (TYLCV - EPPO A2 quarantine pest) is based on breeding of tolerant tomatoes, use of fine-meshed nets and chemical control of the insect vector, *Bemisia tabaci* (EPPO A2 quarantine pest). Studies were done in Israel to assess the transmission of TYLCV to imidacloprid-treated and untreated tomato plants. Viruliferous *Bemisia tabaci* biotype B were caged with treated or untreated tomato plants in a gauze house. Results showed that treated and untreated plants could be contaminated by TYLCV. Viruliferous insects had enough time to inoculate TYLCV to imidacloprid-treated plants before they die. The authors concluded that the use of insecticide to control TYLCV is effective only if it is applied on a large area. Invasion of a treated field by large amounts of viruliferous whiteflies originating from non treated areas will lead to high level of infection.

Source: Rubinstein, G.; Morin, S.; Czosnek, H. (1999) Transmission of tomato yellow leaf curl geminivirus to imidacloprid treated tomato plants by the whitefly *Bemisia tabaci* (Homoptera: Aleyrodidae).
Journal of Economic Entomology, 92(3), 658-662.

Additional key words: control methods **Computer codes:** BEMIAR

2000/031 Situation of *Diabrotica virgifera* in the EPPO region

The situation of *Diabrotica virgifera virgifera* (referred to here as *D. virgifera* for convenience) in Central Europe was reviewed during the 4th meeting of the EPPO ad hoc Panel on *Diabrotica virgifera* held jointly with the 6th International IWGO Workshop on *Diabrotica virgifera* in Paris, 1999-11-04/05. In summary, the spread of *D. virgifera* continues in Central Europe, and, in 1999, it has mainly spread northwards and southwards. An additional area of about 31000 km^2 was infested. *D. virgifera* has not spread to new countries but is approaching the borders of Slovakia, Slovenia, Austria and Ukraine. Economic damage has been seen on maize in Serbia, as in previous years. The numbers of insects caught in some parts of Romania, Bosnia & Herzegovina and Croatia (close to the area in Serbia where economic damage is observed) suggest that economic damage may be expected in the near future. The map below shows the spread of *D. virgifera* in Europe from 1992 to 1999.

Albania
A monitoring programme was carried out for the first time in Albania, in the district of Shkodra (north of Albania, near the Former Yugoslav Rep. of Macedonia), in Tirana (near the international airport) and in the area of Durres, with pheromone traps and yellow sticky traps at 12 locations. *D. virgifera* has **not** been found in Albania.

Austria
In 1999, pheromone traps had been placed along the borders with Hungary (in Burgenland and Styria) and near Vienna international airport. *D. virgifera* has not been found in Austria. In 2000, monitoring will extend to counties with less maize-growing.

Bosnia & Herzegovina
In Bosnia & Herzegovina, maize is an important crop covering approximately 250.000 ha, mainly in the north and north-east parts of the country. *D. virgifera* was first found in 1997 in areas bordering Serbia and Croatia. In 1998, the monitoring was done in the cantons of Posavina and Tuzla-Podrinje (which are situated in the north near the borders of Croatia and Serbia) and Una (western part). It was found only in the first two, in the region around Tuzla (near Doboj, Gracanica and around Zvornik) and in the north along the river Sava (near Orasje). Populations had increased compared to the previous year, particularly in the region near the river Sava (border with Croatia). Minor damage caused by adults on maize silks had been observed in 1998 near Orasje (along river Sava).
In 1999, in the Federation of Bosnia & Herzegovina, the survey was done using pheromone traps, yellow sticky traps, PALs traps (with flower volatile bait) and colour traps in the cantons of Posavina, Tuzla, Zenica-Doboj and Una. *D. virgifera* was not found in canton Una. It was found for the first time in the canton Zenica-Doboj (municipalities of Tešanj and Doboj Jug Zenica). Most captures concerned the cantons of Tuzla and Posavina. In canton Tuzla, it was found around Tuzla, Živinice and Lukavac. In canton Posavina (Oraske, Odsak), densities were especially high and it is expected that economic damage may occur in the near future, although no larval damage has been seen this year. The pest is spreading from eastern and northern parts towards the centre of the county, now passing from the plains to more mountainous areas. Future control will mainly be based on avoidance of monoculture.
In the Serbian areas of Bosnia & Herzegovina, in 1998, the greatest numbers of *D. virgifera* were trapped in the eastern part (Bijeljina, Brčko). Only one adult was found in a single locality near Banjaluka. It was felt that the insect was spreading more rapidly along the river Sava towards the west than southwards. In 1999, pheromone and yellow sticky traps were placed in pairs at 51 locations of 24 communities. 3749 adults were caught at 31 locations. At some of them, populations had reached the level of economic damage and such damage might be observed in 2000, especially at Amajlija, Brodac, Bijeljinan Brezovo Polje and Karakaj, and to a lesser extent at Trnovi, Dragljevac, Tabus and Plazulja. The pest has now reached the central region of Banjaluka.

Bulgaria
After the first IWGO Workshop in Graz (AT) in 1995, a trapping programme was initiated in Bulgaria. Cucurbitacin traps were used in 1995 and 1996, and pheromone traps were used in 1997. Field inspections were also carried out. During the period 1995-1997, results were all negative. In 1998, the insects were found in the north-west near the borders of with Serbia (YU) and Romania (along the Danube). The highest numbers of insects were caught near Bregovo. The estimated infested area was 200 km^2. In 1999, 300 pheromone traps and yellow sticky traps were used. The first three adults of *D. virgifera* were trapped on August 2nd (the last one was caught in October 4th). In total, 303 adults were caught (against 156 in 1998). The insect has moved between 25 and 35 km inwards from the Serbian and Romanian borders.

Croatia
D. virgifera was first found in the east of Croatia in 1995. One adult was caught in a cucurbitacin trap, but now it is considered that the pest was probably already present on an area extending about 30 km from the Yugoslav border and situated to the south of the river Bosut. In 1996, the pest spread westwards (80 km from the Yugoslav border) and adults were trapped in approximately 6000 km². In 1997, the area where adults were trapped reached 9000 km² and the front line of the outbreak was situated 100 km from the Yugoslav border. In 1998, *D. virgifera* spread towards the west (found in two new localities Nova Gradiška and Gornji Varoš) and over a distance of 37 km along the river Sava (up to the village Gornji Varoš; situated at 150 km from the Yugoslav border and 150 km from Slovenia). In the middle part of the front line (in the middle of Croatia), *D.*

virgifera spread only 8 km to the west. In the northern part of Croatia, along the border with Hungary, no further spread was observed. In the north of Croatia, there is a marshland area (Kopački Rit) near Hungary where beetles were found for the first time in 1998. This marshland may have slowed down the spread of *D. virgifera* but it has not prevented it.
In 1999, pheromone and yellow sticky traps were placed in pairs on 117 sites and were replaced every 25 days. 30% of traps were situated in areas which were not infested in June 1999. About 12000 adults were caught (preliminary results). The Infested area is evaluated at 12750 km^2 in 1999 (against 10500 in 1998, 9000 in 1997, 6500 in 1996) on which 165000 ha of corn are grown. The population densities were much higher and high densities (25 adults) were trapped at locations where the pest was not present last year. Two more counties have been infested in 1999: Koprivnicko-Krizevacka next to Hungary and at its south, Bjelovarsko-Bilogorska. *D. virgifera* spread mainly in the North of the country next to Hungary, and in the middle part of the frontline. It spread to the west along the rivers Sava (120 km from Slovenia) and Drava (100 km from Austria). Despite a very strong traffic from east to west, no spread by vehicles was registered. Damage was assessed in a trial on insecticides carried out at the border with Yugoslavia. The highest damage was 5.5 (Iowa scale), with yield losses of 15-20% in this plot. However, it should be stressed that no economic damage has been reported on farmers' crops in 1999.

France
Maize is grown on approximately 3 million hectares in France (both for grain and silage), with about 25% in monoculture. In 1999, official monitoring was carried out at 16 locations at risk, near airports and in representative maize-growing areas. *D. virgifera* has **not** been found in France.

Germany
Monitoring for *D. virgifera* started in Germany in 1998 in Baden-Württemberg. In 1999, it extended to Bayern, Sachsen, Nordrhein-Westfalen, Baden-Württemberg, using 161 pheromone traps and 18 MCA (plant kairomone) traps at 53 locations. *D. virgifera* has **not** been found in Germany.

Hungary
D. virgifera was first found in Hungary in 1995 in the south of the country. In 1997, *D. virgifera* spread towards the north (up to 100-120 km from the Yugoslav border). In 1996-1997, it was estimated that the pest has moved 40 km to the north and that approximately 10 000 km² were potentially infested by *D. virgifera*. The pest was present in the following counties: Baranya (Villány, Boly), Bács-Kiskun (Kecskemét), Csongrád (Szeged, Csanádpalota, Maroslele-Makó) and Békes (Mezökovacsháza, Mezöhegyes, Battonya, Csnádapáca). The highest population numbers were found in Békes and Czongrád counties. Larvae were seen for the first time, slightly damaging maize roots near Szeged (Czongrád county), but without any impact on maize yield. In 1998, the monitoring programme was carried out in infested areas, non-infested areas (according to 1997 results) and along the front line of the spread. It showed that the spread was very slow but that populations increased in the following areas: Baranya (Villány, Boly), Bács-Kiskun (Kunbaja, Bácsalmás), Csongrád (Szeged, Csanádpalota, Nagylak) and Békes (Mezöhegyes). In the area of Szeged, slight larval damage was observed but no impact on yield was recorded. *D. virgifera* did not spread towards the north in 1998 (the front line is still approximately at 120 km from the Yugoslav border), but it has slowly moved towards the west.
In 1999, the permanent monitoring network was set up at 19 sites of 9 infested counties with pairs of pheromone and yellow sticky traps. Scout trapping was also done in areas previously not infested using pheromone traps at 105 locations. The two trapping systems caught 9304 adults in total (against 1895 in 1998). *D. virgifera* was trapped in 12 counties: Bács-Kiskun, Baranya, Csongrád, Békes, Fejer, Somogy (up to the southern shore of lake Balaton), Pest, Jász-Nagykun-Szolnok, Hajdú-Bihar, Nógrád (close to the river Ipoly, near the Slovakian border), Budapest, Tolná, Komaróm-Esztergom (northern part of the country; not far from the Danube and the Slovakian border). *D. virgifera* spread northwards through the valleys and along the Danube. Larval damage was observed in Békés and Csongrád counties, and the economic damage level was reached near Szeged

(Csongrád county) in an experimental field grown in monoculture. No damage was reported in farmers' fields in Hungary.

Italy

Following the establishment and spread of *D. virgifera* in Yugoslavia, an alert programme was set up in Italy in order to be able to take containment and eradication measures as soon as the pest is found. A monitoring programme was set up in the north-eastern part of Italy with 12 trapping sites in 1997 and 20 sites in 1998 (1 to 10 pheromone traps per site). Maize fields were selected in regions where maize is often grown continuously and also near potential points of entry (airports, firms trading with infested countries etc.). In 1997, no *D. virgifera* was found. In 1998, the first 7 specimens of *D. virgifera* were trapped between 21st July and 13th August in maize fields in Tessera, near the international airport of Venezia (Marco Polo). It was unexpected in the sense that, if the pest is spreading westward from the outbreak in the Danube basin, it would have been expected to occur first in Slovenia, Austria or western Croatia. In fact, the origin of this introduction is not known. Air-borne transport from USA or road-borne transport from the Danube basin are both possibilities.

After this finding an eradication programme was immediately set up. A focus area was delimited where *D. virgifera* had been found (1100 ha) and a safety area was defined in the surroundings (7-14 km around the focus, 35000 ha in all). In the focus area, a trapping grid (0.5 km × 0.5 km) was set up using pheromone traps. It was planned that, in this area, treatments would be applied to all the maize if *D. virgifera* was found early in the season, and treatments would nevertheless be applied at the beginning of July. Finally, continuous cropping of maize would be prohibited. In the safety area, a second trapping grid (1 km × 1 km) was established. It was planned that maize fields would be treated within 1 km of the trap if adults were caught and trapping would be intensified.

In 1999, official checks were made to verify that specific restrictions on maize cropping had been respected. Fenitrothion and chlorpyrifos were used for the above-mentioned treatments. In addition, it was prohibited to move fresh parts of maize and soil in which corn was grown in the previous year outside the focus area. It was also forbidden to thresh corn before the 1st of October to prevent possible spread of adults. These measures were funded through regional funds to cover farmer's costs caused by the prohibition and costs of treatment and monitoring.

In 1999, only 2 adults were caught, in one trap on July 6th and 26th near the airport. This trap was situated at the limit of the focus area and 11 ha of maize in the safety area was also treated. The eradication strategy therefore seems to have been effective. There was no increase in the number of males captured, and no spread outside the focus area. In the rest of the country, 26 traps were set up in the Veneto region, and 26 in Friuli Venezia Giulia, and no *D. virgifera* was caught. Monitoring in Lombardia, Emilia Romagna and Piemonte also gave negative results.

Romania

The first find of *D. virgifera* was made in 1996 at Nadlac (district of Arad – west of the country near Hungary) on yellow sticky traps. In 1997, *D. virgifera* was caught mostly in Arad, Timis, Caras-Severin and Mehedinti districts and it was estimated that an area of approximately 10000 km² was potentially infested. In 1998, approximately 12000 km² was potentially infested. Increase in population densities was recorded. In 1999, 241 sites were studied (each site having both pheromone and yellow sticky traps). The spread continued towards the east and the north-east within the districts of Bihor, Arad and Hunedoara. In the south, *D. virgifera* spread towards the south-east, along the Danube, near the Bulgarian border, and it reached the district of Dolj. The potentially infested area is approximately 14000 km^2. Although it was noted that in some areas the numbers of adults caught were approaching the economic thresholds, no economic damage has yet been observed in Romania.

Slovakia

In 1998, 37 traps were placed along the border with Hungary and no *D. virgifera* were caught. In 1999, 39 traps were used along the southern border of Slovakia and near Bratislava and Kosice airports. **No** *Diabrotica virgifera* were caught. *D. virgifera* has not been found in Slovakia.

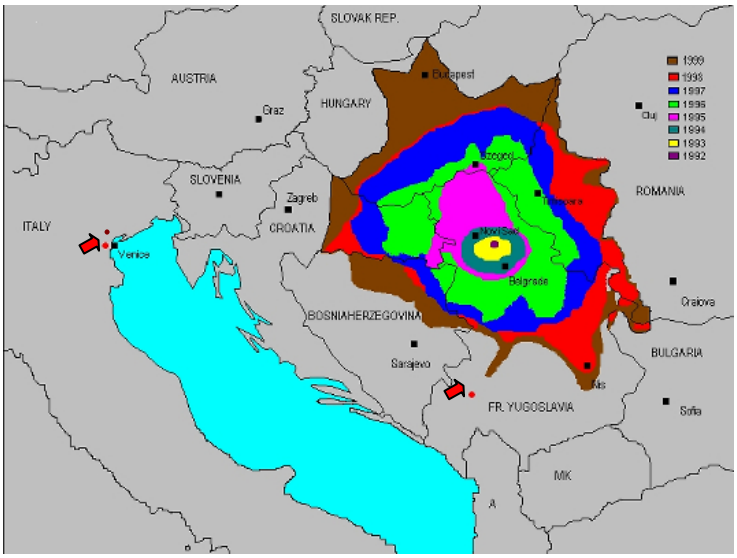
Slovenia

A monitoring programme has been in place in Slovenia since 1995 in the north-east and south-east of the country, which are two intensive maize-growing areas near Hungary and Croatia. The monitoring programme was intensified in 1999 due to the findings in Italy. Trapping was carried out at 50 locations, mainly near the Hungarian and Croatian borders, but also near the Italian border and Ljubljana international airport. So far, *D. virgifera* has **not** been found in Slovenia. The spread in Europe will determine the future monitoring programmes in Slovenia.

Yugoslavia

It must be recalled that *D. virgifera* was reported for the first time in Europe in Surčin, near Belgrade airport (Serbia) in 1992-1993. In 1998, 900 pheromone traps were used and it was observed that *D. virgifera* continued to spread towards the south. In 1998, damage was only reported near Belgrade, Pozarevac, Novi Sad, and Vršac, this area extending towards the borders with Croatia (on the west) and Romania (on the east). In 1998, the area where damage was observed covered 45525 ha. Monitoring done in southern Backa (region around Novi Sad) in 1998 showed that populations levels were still increasing. High infestations occurred in the eastern part of southern Backa as in 1997, and differences previously observed between the east and west parts of this region tended to disappear. Symptoms in maize fields were visible ("gooseneck" symptoms). In 1998, *D. virgifera* was also found for the first time in Montenegro. A few adults have been trapped at three localities (near Bijelo Polje in the north of Montenegro) along a railway track. In 1999, trapping was done at 282 sites. Populations were denser in the north-east than in the hilly areas of the centre. *D. virgifera* continued to spread southwards along the rivers Ibar (approximately 60 km) and Morava (approximately 20-30 km, to Leskovac). Damage occurred in the same counties as in 1998, and also in the neighbouring areas of Middle Banat and Middle Backa. The mean yield reduction was estimated at 30% (from 5 to 80% damage was observed).

Spread of Western Corn Rootworm in Europe from 1992-1999 (by C. R. EDWARDS, J. KISS and Gy. BARNA; based on data from Igrc-Barcic, Festic, Furlan, Ilovai, Ivanova, Maceljski, Princzinger, Sivcev and Vonica)



Source: Papers presented at the 4th meeting of the EPPO ad hoc Panel on *Diabrotica virgifera* held jointly with the 6th International IWGO Workshop on *Diabrotica virgifera* in Paris, 1999-

11-04/05.

Additional key words: detailed records

Computer codes: DIABVI, AL, AT, BA, BG, DE, FR, HR, HU, IT, RO, SI, SK, YU

2000/032 Details on glasshouse quarantine pests in EPPO countries

During the EPPO Conference on 'Introduced glasshouse pests: problems and solutions' (Pruhonice, CZ, 1998-10-13/15), the situation of the following glasshouse quarantine pests was presented by 12 EPPO countries (Czechia, Denmark, France, Germany, Hungary, Lithuania, Netherlands, Norway, Poland, Slovakia, Sweden, United Kingdom). Papers presented at this Conference will be published in the EPPO Bulletin.

Bemisia tabaci (EPPO A2 quarantine pest): Absent from Lithuania and Slovakia. Denmark, Sweden and United Kingdom are EU protected zones. Every year outbreaks are found but are eradicated each time. It is established in France and the Netherlands. In the following countries, it is considered as locally present, and in most cases problems are essentially seen on *Euphorbia pulcherrima* and *Hibiscus*. In Czechia, where it occurs since 1987, small numbers of outbreaks are found and are subject to eradication methods. In Germany, it is often found together with *Trialeurodes vaporariorum*, measures are taken for plants sent to EU protected zones. In Hungary, it occurs occasionally on ornamentals but has never been seen on vegetables. It has been locally present in Norway since 1987, and can cause problems on *E. pulcherrima*. In Poland, it is subject to internal quarantine measures.

Frankliniella occidentalis (EPPO A2 quarantine pest): Absent from Lithuania. It is now established in Czechia, Denmark (efforts are made to exclude it from plants for planting), France, Germany, Hungary, Netherlands, Norway, Slovakia, Sweden (widespread on ornamentals but rare on vegetables), United Kingdom. In Poland, it occurs locally, at low levels and is subject to internal quarantine measures.

Helicoverpa armigera (EPPO A2 quarantine pest): It is absent from Lithuania, Slovakia and Sweden. In Czechia and Hungary, the pest can occasionally migrate but always dies out in winter. In Czechia, it was found in Moravia in 1994 and eradicated. In Hungary, it was found in some years, but has not been seen during the last two years. In the Netherlands, outbreaks have occasionally been reported in relation to imports but have always been eradicated.

Liriomyza bryoniae (EU Annexes): Absent from Norway, Slovakia, Sweden. It occurs in Czechia, Denmark, Hungary, Lithuania, Netherlands, Poland, United Kingdom (south of England). In most cases, it is considered as a minor pest of tomatoes.

Liriomyza huidobrensis (EPPO A2 quarantine pest): Absent from Hungary, Lithuania, Norway (found in 1995, but confirmed absent in 1996), Slovakia, Sweden (one outbreak reported in 1998 on imported material but eradicated). Reported as locally present in the

following countries. In Czechia, it was first found in 1993 and is still subject to containment and suppression measures. In Denmark, occasional outbreaks are reported, and plants concerned are destroyed or treated. In Germany, it occurs locally and temporarily. In Poland, it causes occasional outbreaks and is subject to internal quarantine measures. In United Kingdom, it has occurred sporadically since 1989. Eradication measures were applied until 1991. However, phytosanitary measures are still applied for plants for planting. The pest is now established in France and the Netherlands (where it is reported as the most frequent leaf miner).

Liriomyza trifolii (EPPO A2 quarantine pest):
Absent from Denmark, Lithuania, Norway, Slovakia. It has been found and subsequently eradicated from Czechia and Hungary. It is no longer seen in Poland and Sweden. It is now rarely seen in Germany and United Kingdom. It is present but less frequent in the Netherlands. In many cases, *L. trifolii* has been displaced by *L. huidobrensis*.

Tomato spotted wilt tospovirus (EPPO A2 quarantine pest): Absent from Lithuania. Established in Czechia, Hungary (it poses problems both indoor and outdoor), Netherlands, United Kingdom. Sweden is an EU protected zone (the virus was found in 1996 but was not seen again). Denmark was an EU protected zone until 1998-07, but efforts are still being made to exclude it from plants for planting (as well as impatiens necrotic spot tospovirus). The virus occurs in Norway but is under eradication. In Slovakia, it has been reported in a few locations since 1993, infected plants are destroyed.

Source: Smith, I.M. (1998) Review of the status of glasshouse quarantine pests in EPPO countries.
Bulletin OEPP/EPPO Bulletin (in press)

Additional key words: detailed records

Computer codes: BEMITA, FRANOC, HELIAR, LIRIBO, LIRIHU, LIRITR, TMSWXX, CZ, DE, DK, FR, GB, HU, LT, NL, NO, PL, SE, SK

2000/033 *Xanthomonas vesicatoria* on *Capsicum chinense* in Grenada and Barbados

The production of 'hot pepper' *Capsicum chinense*, has recently increased in Grenada and Barbados. Between 1992 and 1995, the production on both islands has increased on average by 500 %. The main cultivars are Indian Red and Scotch Bonnett. *C. chinense* is usually grown in rotation with capsicum (*Capsicum annuum*) and tomato (*Lycopersicon esculentum*). So far, *Xanthomonas vesicatoria* (EPPO A2 quarantine pest) was not reported on *C. chinense*, but since 1993, outbreaks have been observed on this crop. In parallel, a switch in control methods also took place, from almost total dependence to copper to frequent use of zinc. Studies conducted on bacterial populations of *X. vesicatoria* have showed important and complex changes in race composition in Grenada and Barbados. The general trend is a gradual increase of bacterial isolates which are resistant to zinc, and of races which are able to overcome resistance conferred by certain resistance genes (in particular to gene *Bs*2 which confers resistance to several *X. vesicatoria* capsicum races). It has been shown that all races prevalent on *C. chinense* overcome the resistance gene *Bs*2. However, despite the preponderance of *X. vesicatoria* races overcoming gene *Bs*2 on *C. chinense*, the generally susceptible tomato and capsicum cultivars planted in the field were not significantly affected by them.

Source: Gore, J.P.; O'Garro, L.W. (1999) The advent of bacterial spot of hot pepper in Barbados and Grenada.
Caraphin News, June 1999, no. 18, IICA Barbados, pp 3, 4 & 10.

Gore, J.P.; O'Garro, L.W. (1999) *Xanthomonas campestris* pv. *vesicatoria* from bell pepper and tomato in Barbados undergoes changes in race structure, virulence and sensitivity to chemical control agents.
Journal of Phytopathology, 147(7-8), 397-402.

O'Garro, L.W.; Gore, J.P.; Ferguson, E. (1999) Races of *Xanthomonas campestris* pv. *vesicatoria* overcoming the gene Bs2 for bacterial spot resistance in pepper, prevalent on *Capsicum chinense* in Barbados and Grenada and weakly pathogenic on bell pepper and tomato in the field.
Plant Pathology, 48(5), 588-594.

Additional key words: new host plant **Computer codes:** XANTVE, BB, GD

2000/034 Serious outbreak of *Xanthomonas vesicatoria* on sweet pepper in Florida (US)

During winter 1997-1998, a widespread and serious outbreak of *Xanthomonas vesicatoria* (EPPO A2 quarantine pest) occurred in commercial fields of sweet pepper (*Capsicum annuum*) in Southern Florida (US). This was the first serious outbreak since the 1993-1994 season. Studies showed that 73.3 % of the isolates collected in infected crops belonged to race 6 and 10.2% to race 2. It is thought that this outbreak could be due to an unusually wet winter and selection pressure resulting from widespread planting of pepper cultivars resistant to race 1, 2 and 3.

Source: Pernezny, K.; Collins, J.; Stall, R.E.; Shuler, K.; Datnoff, L.E. (1999) A serious outbreak of race 6 of *Xanthomonas campestris* pv. *vesicatoria* on pepper in Southern Florida.
Plant Disease, 83(1), p 79.

Additional key words: outbreak **Computer codes:** XANTVE, US

2000/035 More findings of *Xanthomonas axonopodis* pv. *citri* in Florida (US)

In Florida (US), *Xanthomonas axonopodis* pv. *citri* (EPPO A1 quarantine pest) was recently found in Sun City Center (Tampa Bay, Hillsborough county). The site is a row of citrus trees near private houses. In addition, it is also reported that citrus canker has reached 10 commercial citrus orchards in the Miami-Dade county.

Source: ProMED posting of 1999-01-19. Citrus canker spreading - USA (Florida)
http://www.promedmail.org/

Pest Alert posting, University of Florida,1999-12-06. Citrus canker found near Tampa Bay.
http://extlab7.entnem.ufl.edu/PestAlert/

Additional key words: detailed record **Computer codes:** XANTCI, US

2000/036 Studies on the biology of *Toxoptera citricida*

Laboratory studies were carried out in Florida (US) on the development, survival and reproduction of *Toxoptera citricida* (EPPO A1 quarantine pest) at 8 constant temperatures (8, 10, 15, 20, 25, 28, 30 and 32 °C). The population studied was reared from aphids collected on a citrus tree in Broward county, Florida. The lower developmental threshold for immature stages was estimated at 6.27 °C, and the upper threshold for nymph was estimated at 31.17 °C. The percentage of survival of immature stages varied from 81 to 97 % within the temperature range of 8 to 30 °C. But at 32 °C, survival was reduced to 29 %. The average longevity of adult females ranged from 60 days at 10 °C to 6.5 days at 32 °C. The average progeny per female was 52.5 at 20 °C and 7.5 at 32 °C. Mean generation time ranged from 51 days at 10 °C to 8 days at 32 °C. Using the intrinsic rate of natural increase, it was estimated that the optimal temperature for population growth was 20-30 °C (the highest intrinsic rate was obtained at 28 °C).

Source: Tsai, J.H.; Wang, K. (1999) Life table study of brown citrus aphid (Homoptera: Aphididae) at different temperatures.
Environmental Entomology, 28(3), 412-419.

Additional key words: biology **Computer codes:** TOXOCI

2000/037 *Radopholus citrophilus* considered again as a synonym of *R. similis*

In the past *Radopholus citrophilus* (EPPO A1 quarantine pest) was first considered as a race of *Radopholus similis* (EPPO A2 quarantine pest) attacking banana but not citrus. It was then proposed to consider *R. citrophilus* as a distinct species from *R. similis*, on the basis of differences in isoenzymes, proteins and sexual behaviour. However, more recently it had been suggested again that *R. citrophilus* was a synonym of *R. similis* (see EPPO RS 98/093). Further studies were carried out on 10 *Radopholus* populations from different locations in Africa (Ghana, Guinea, South Africa, Sudan and Uganda). These populations were isolated from banana roots and soil, and multiplied in the laboratory. In this study, it was observed that characters considered as diagnostic for the separation of *R. similis* and *R. citrophilus* showed variation and overlapping. The conclusion of the authors was that *R. citrophilus* should be regarded as a synonym of *R. similis*.

Source: El-Badri, G.A.A.; Geraert, E.; Moens, M. (1999) Morphological differences among *Radopholus* populations (Nematoda: Tylenchida) from banana in Africa.
Journal of Nematode Morphology and Systematics, 2(1), 1-16 (abstract).

Additional key words: taxonomy **Computer codes:** RADOCI, RADOSI

2000/038 EPPO report on selected intercepted consignments

The EPPO Secretariat has gathered the intercepted consignment reports for 1999 received since the previous report (EPPO RS 99/183) from the following countries: Austria, Cyprus, Czechia, France, Finland, Germany, Greece, Guernsey, Ireland, Lithuania, Netherlands, Norway, Poland, Portugal Switzerland, Slovenia, United Kingdom. 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 interceptions made because of the presence of pests. Other interceptions 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 interception reports.

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
***Ambrosia* sp.**	*Helianthus annuus*	Stored products	Hungary	Poland	1
	Zea mays	Stored products	Hungary	Poland	1
	Zea mays	Stored products	Romania	Poland	1
	Zea mays	Stored products	Slovakia	Poland	7
Ambrosia artemisiifolia	*Zea mays*	Stored products	Ukraine	Lithuania	8
Ambrosia, Sitophilus oryzae	*Triticum aestivum*	Stored products	Slovakia	Poland	1
Ambrosia, Tribolium	*Zea mays*	Stored products	Slovakia	Poland	1
Aonidiella citrina	*Citrus hystrix*	Fruit	Thailand	United Kingdom	1
Aphis spiraecola	*Bougainvillea*	Cuttings	Israel	United Kingdom	1
Aphis, Thrips	*Lactuca sativa, Allium porrum*	Vegetables	Netherlands	Cyprus	1
Bemisia tabaci	*Abutilon*	Cuttings	Israel	France	1
	Alternanthera cardinalis	Aquarium plants	Singapore	France	1
	Alternanthera ficoides	Aquarium plants	Singapore	France	1
	Brachychiton	Plants for planting	Israel	France	1
	Callistemon	Plants for planting	Israel	United Kingdom	1
	Dendranthema	Cut flowers	Israel	Ireland	1
	Dendranthema	Cut flowers	Italy	Ireland	1
	Dendranthema morifolium	Cut flowers	Spain	United Kingdom	1
	Dendranthema morifolium	Cut flowers	Spain (Canary isl.)	United Kingdom	1
	Eryngium	Cut flowers	Thailand	France	1
	Eryngium	Cut flowers	Vietnam	France	1
	Eryngium foetidum	Cut flowers	Thailand	France	1
	Euphorbia pulcherrima	Plants for planting	Italy	Slovenia	1
	Euphorbia pulcherrima	Plants for planting	Netherlands	United Kingdom	1
	Euphorbia pulcherrima	Pot plants	Netherlands	United Kingdom	1
	Eustoma russellianum	Cut flowers	Israel	United Kingdom	1
	Gypsophila paniculata	Cut flowers	Israel	United Kingdom	1
	Hygrophila	Aquarium plants	Malaysia	France	1

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
***B. tabaci* (cont.)**	*Hygrophila*	Aquarium plants	Singapore	France	1
	Hygrophila corymbosa	Aquarium plants	Malaysia	France	1
	Hygrophila corymbosa	Aquarium plants	Singapore	France	1
	Hygrophila costata	Aquarium plants	Singapore	France	1
	Hygrophila polysperma	Aquarium plants	Singapore	United Kingdom	1
	Hypericum androsaemum	Cut flowers	Israel	United Kingdom	1
	Myrtus	Plants for planting	Israel	United Kingdom	1
	Myrtus communis	Plants for planting	Israel	United Kingdom	1
	Myrtus tarantina	Plants for planting	Israel	United Kingdom	1
	Ocimum basilicum	Vegetables	Israel	France	3
	Ocimum basilicum	Vegetables	Morocco	France	1
	Rosa	Cut flowers	Israel	France	1
	Solidago	Cut flowers	(Netherlands)	United Kingdom	1
	Solidago	Cut flowers	Israel	Guernsey	1
	Solidago	Cut flowers	Israel	Ireland	6
	Solidago	Cut flowers	Israel	United Kingdom	1
	Solidago	Cut flowers	Netherlands	Ireland	3
	Solidago	Cut flowers	Netherlands	United Kingdom	1
	Solidago	Cut flowers	Zimbabwe	United Kingdom	1
	Titanotrichum oldhamii	Plants for planting	China	United Kingdom	2
	Trachelium	Cut flowers	Israel	Ireland	1
	Trachelium	Cut flowers	Israel	United Kingdom	4
	Trachelium	Cut flowers	Netherlands	Ireland	1
	Trachelium	Cut flowers	Netherlands	United Kingdom	2
	Trachelium caeruleum	Cut flowers	Israel	United Kingdom	1
	Unspecified plant	Cut flowers	Lebanon	France	1
	Unspecified plant	Aquarium plants	Singapore	United Kingdom	1
	Unspecified plant	Aquarium plants	Thailand	France	1
	Unspecified plants	Aquarium plants	Spain (Canary isl.)	France	1
	Verbena	Cuttings	Israel	United Kingdom	1
***Bemisia tabaci* (biotype B)**	*Brachychiton*	Plants for planting	Israel	Netherlands	1
	Hibiscus	Plants for planting	Israel	Netherlands	1
	Hypericum	Cuttings	Israel	Netherlands	1
Bemisia tabaci, Liriomyza	*Dendranthema morifolium*	Cut flowers	Spain (Canary isl.)	United Kingdom	1
Cecidomyiidae	*Dendrobium*	Cut flowers	Thailand	Germany	1
Clavibacter michiganensis* subsp. *michiganensis	*Lycopersicum esculentum*	Seeds	Thailand*	France	1
Clavibacter michiganensis* subsp. *sepedonicus	*Solanum tuberosum*	Ware potatoes	Germany	Netherlands	7
Dasturella	*Bambusa ventricosa*	Plants for planting	China	United Kingdom	1
Duponchelia fovealis	*Heuchera*	Plants for planting	Netherlands	United Kingdom	1
Ephestia cautella	*Theobroma cacao*	Stored products	Côte d'Ivoire	Poland	1
Frankliniella occidentalis	*Cymbidium*	Cut flowers	Netherlands	Slovenia	1
	Dendrobium	Cut flowers	Thailand*	Germany	3
***Frankliniella occidentalis* and other insects**	*Dendrobium*	Cut flowers	Thailand*	Germany	2

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Guignardia citricarpa	*Citrus*	Fruit	Benin*	France	1
	Citrus	Fruit	Côte d'Ivoire*	France	1
	Citrus sinensis	Fruits	Argentina	Netherlands	1
	Citrus sinensis	Fruits	South Africa	Netherlands	1
Helicotylenchus	*Dracaena godseffiana*	Plants for planting	Malaysia	Germany	1
Helicotylenchus dihystera	*Phyllostachys*	Plants for planting	China	United Kingdom	1
Helicotylenchus, Tylenchorhynchus	*Atriplex*	Plants for planting	(Jordan)	United Kingdom	1
Helicoverpa armigera	*Dianthus*	Cut flowers	Israel	Germany	1
	Dianthus	Cut flowers	Israel	Netherlands	3
	Dianthus	Cut flowers	Kenya	Netherlands	1
	Dianthus	Cut flowers	Morocco	Germany	1
	Dianthus	Cut flowers	Spain	Netherlands	2
	Dianthus caryophyllus	Cut flowers	Turkey	Germany	1
	Gerbera	Cut flowers	Italy	Slovenia	1
	Pelargonium	Cuttings	Tunisia	France	1
	Phaseolus vulgaris	Vegetables	Morocco	Netherlands	1
	Pisum	Vegetables	Zambia	United Kingdom	2
Heliothis	*Dianthus*	Cut flowers	Morocco	Germany	1
Iva	*Glycine max*	Stored products	Ukraine	Poland	2
Iva xanthifolia, Sitophilus oryzae	*Glycine max*	Stored products	Ukraine	Poland	1
Leptinotarsa decemlineata	*Cichorium endivia*	Vegetables	France	United Kingdom	1
	Lactuca	Vegetables	Spain	United Kingdom	1
	Solanum tuberosum	Ware potatoes	Unknown[1]	United Kingdom	1
Liriomyza bryoniae	*Gypsophila*	Cut flowers	Israel	United Kingdom	1
Liriomyza huidobrensis	*Allium fistulosum*	Vegetables	Zimbabwe*	United Kingdom	1
	Beta vulgaris ssp. *vulgaris* var. *cicla*	Vegetables	Italy	Slovenia	3
	Brassica	Vegetables	Zimbabwe*	United Kingdom	1
	Bupleurum	Cut flowers	Zimbabwe*	Guernsey	1
	Carthamus	Cut flowers	Kenya*	United Kingdom	1
	Carthamus, Bupleurum	Cut flowers	Netherlands	United Kingdom	1
	Dendranthema	Cut flowers	Netherlands	Ireland	2
	Dendranthema morifolium	Cut flowers	Netherlands	United Kingdom	1
	Eustoma russellianum	Cut flowers	Kenya*	United Kingdom	2
	Gypsophila	Cut flowers	Israel	Ireland	3
	Gypsophila	Cut flowers	Netherlands	Ireland	1
	Gypsophila	Cut flowers	Netherlands	United Kingdom	2
	Pisum	Vegetables	Zimbabwe*	United Kingdom	2

[1] This is a correction to an interception appearing in EPPO RS 99/146, which mentioned Cyprus as the country of origin. Further investigations showed that the origin was in fact unknown. *Leptinotarsa decemlineata* does not occur in Cyprus.

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
***Liriomyza* (suspect *huidobrensis*)**	*Allium fistulosum*	Vegetables	Zimbabwe	United Kingdom	1
	Brachycome	Cuttings	Israel	United Kingdom	1
	Carthamus	Cut flowers	Kenya	United Kingdom	1
	Carthamus tinctorius	Cut flowers	Netherlands	United Kingdom	1
	Gypsophila	Cut flowers	Spain	United Kingdom	1
	Pisum sativum	Vegetables	Kenya	United Kingdom	1
	Primula obconica	Plants for planting	Netherlands	United Kingdom	1
	Verbena	Cuttings	Israel	United Kingdom	1
Liriomyza huidobrensis, L. trifolii	*Dendranthema*	Cut flowers	Colombia	United Kingdom	1
Liriomyza sativae	*Ocimum basilicum*	Vegetables	Thailand	France	2
Liriomyza trifolii	*Allium*	Vegetables	Mexico*	United Kingdom	1
	Allium cepa	Vegetables	Mexico*	United Kingdom	1
	Allium fistulosum	Vegetables	Mexico*	United Kingdom	1
	Bupleurum	Cut flowers	(Netherlands)	United Kingdom	1
	Gypsophila paniculata	Cut flowers	Israel	United Kingdom	2
	Solidago	Cut flowers	Zimbabwe	United Kingdom	1
***Liriomyza* (suspect *trifolii*)**	*Bupleurum griffithii*	Cut flowers	Israel	United Kingdom	1
	Gypsophila	Cut flowers	Israel	United Kingdom	2
	Gypsophila	Cut flowers	Netherlands	United Kingdom	1
	Gypsophila	Cut flowers	Spain (Canary isl.)	United Kingdom	1
Liriomyza	*Allium*	Vegetables	Mexico	United Kingdom	1
	Allium fistulosum	Vegetables	Mexico	United Kingdom	1
	Artemisia dracunculus	Cuttings	Israel	France	1
	Artemisia dracunculus	Cut flowers	Morocco	France	1
	Bitter leaf?	Vegetables	Gambia	United Kingdom	1
	Carthamus	Cut flowers	(Netherlands)	United Kingdom	1
	Carthamus	Cut flowers	Kenya	Greece	1
	Carthamus tinctorius	Cut flowers	(Netherlands)	United Kingdom	1
	Dianthus	Cut flowers	Turkey	Greece	2
	Gypsophila	Cut flowers	Israel	United Kingdom	1
	Gypsophila	Cut flowers	Kenya	United Kingdom	1
	Gypsophila	Cut flowers	Netherlands	Czechia	2
	Hygrophila polysperma	Aquarium plants	Morocco	France	1
	Ocimum basilicum	Vegetables	Israel	France	4
	Ocimum basilicum	Vegetables	Morocco	France	1
	Verbena	Cuttings	Costa Rica	United Kingdom	1
Meloidogyne	*Rosa*	Plants for planting	Netherlands	Norway	1
	Rosa	Cuttings	Uzbekistan	Poland	2
Nematodes	*Phoenix roebelenii, Caryota mitis, Areca lutescens, Rhapis excelsa*	Plants for planting	Malaysia	Germany	1
Phyllocnistis	*Protea cynaroides*	Plants for planting	South Africa	Portugal	1
Phytoseiidae	*Dendrobium*	Cut flowers	Thailand	Germany	1
Rhizopertha dominica	*Hordeum vulgare*	Stored products	Slovakia	Poland	1
	Triticum aestivum	Stored products	Slovakia	Poland	1

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Sitophilus	*Hordeum vulgare*	Stored products	Hungary	Slovenia	1
Sitophilus oryzae	*Hordeum vulgare*	Stored products	Czechia	Poland	3
	Triticum	Stored products	Czechia	Poland	2
	Zea mays	Stored products	Slovakia	Poland	1
Spodoptera litura	*Dendrobium*	Cut flowers	Thailand	Netherlands	1
Streptomyces scabies	*Solanum tuberosum*	Seed potatoes	Germany	Cyprus	1
Thrips palmi	*Dendranthema*	Cuttings	Brazil	Netherlands	1
	Dendrobium	Cut flowers	Thailand	France	1
	Dendrobium	Cut flowers	Thailand	Netherlands	8
	Orchidaceae	Cut flowers	Thailand	Finland	2
	Orchidaceae	Cut flowers	Thailand	France	1
	Solanum melongena	Vegetables	Dominican Rep.	Netherlands	2
	Solanum melongena	Vegetables	Suriname*	Netherlands	3
***Thrips* (suspect *palmi*)**	*Momordica*	Vegetables	Dominican Rep.	United Kingdom	2
	Solanum	Vegetables	Mauritius	France	2
	Solanum melongena	Vegetables	Mauritius	France	1
Thrips	*Dendrobium*	Cut flowers	Thailand	Germany	2
Tobacco ringspot virus	*Pelargonium*	Plants for planting	Portugal	United Kingdom	1
***Tribolium* sp.**	*Hordeum vulgare*	Stored products	Czechia	Poland	1
	Zea mays	Stored products	Czechia	Poland	1
	Zea mays	Stored products	Slovakia	Poland	1
Tribolium, Cuscuta	*Phaseolus*	Stored products	India	Poland	1
Tribolium, Sitophilus granarius, Cryptolestes	*Zea mays*	Stored products	Germany	Poland	1
Tribolium, Sitophilus oryzae	*Hordeum vulgare*	Stored products	Czechia	Poland	1
	Hordeum vulgare	Stored products	Slovakia	Poland	1
	Triticum	Stored products	Slovakia	Poland	1

- **Fruit flies**

Pest	Consignment	Country of origin	C. of destination	nb
Bactrocera	*Psidium guajava*	Thailand	France	1
Ceratitis capitata	*Citrus limon, C. reticulata*	Spain	Poland	2
	Citrus reticulata	Italy	Poland	1
	Citrus reticulata	Italy	Czechia	1
	Citrus reticulata	Spain	Poland	13
	Citrus reticulata, C. limon, C. paradisi	Spain	Poland	1
	Citrus reticulata, C. sinensis, Lycopersicon esculentum	Spain	Poland	1
	Citrus reticulata, Citrus limon	(Germany)	Poland	1

Pest	Consignment	Country of origin	C. of destination	nb
***C. capitata* (cont.)**	*Citrus reticulata, Lycopersicon esculentum, Cucumis*	(Netherlands)	Poland	1
	Citrus sinensis	Brazil	Netherlands	1
	Citrus sinensis, C. limon	Spain	Poland	1
	Citrus sinensis, C. reticulata	Spain	Poland	1
Tephritidae	*Mangifera indica*	Mexico	France	1

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
***Anoplophora* (suspected)**	Hardwood	Packing wood	China	Austria	3
Anoplophora glabripennis	Coniferae and Hardwood	Packing wood	China	United Kingdom	1
Anoplophora, Batocera, Apriona	Hardwood	Packing wood	China	Austria	2
Bursaphelenchus mucronatus	*Pinus*	Packing wood	China	Austria	1
Cerambycidae	Coniferae	Packing wood	China	Austria	1
Dryocoetini	Coniferae	Packing wood	China	Austria	1
Monochamus	Coniferae	Packing wood	China	Austria	1
	Larix sibirica	Wood	Russia	Austria	1
	Picea	Wood and bark	Slovakia	Poland	1
Monochamus alternatus	Coniferae	Wood	China	Netherlands	1
Monochamus alternatus, Orthotomicus	*Pinus*	Packing wood	China	Austria	1
Monochamus, Bursaphelenchus mucronatus	Coniferae	Packing wood	China	Austria	1
Monochamus, Tetropium	*Larix sibirica*	Wood	Russia	Austria	1
Nematodes	Coniferae	Packing wood	China	Austria	2
	Hardwood	Packing wood	China	Austria	1
Orthotomicus	Coniferae	Packing wood	China	Austria	2
***Orthotomicus*, Cryptorhynchinae**	Coniferae	Packing wood	China	Austria	1
***Orthotomicus, Dryocoetes*, Ambrosia beetle**	Coniferae	Packing wood	China	Austria	1
Orthotomicus, Dryocoetes, Pissodes?	Coniferae	Packing wood	China	Austria	1

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Orthotomicus, Monochamus	*Pinus*	Packing wood	China	Austria	1
***Pissodes* (suspected)**	Hardwood	Packing wood	China	Austria	1
	Coniferae and Hardwood	Packing wood	China	Austria	1
Pissodes?, Monochamus, Bursaphelenchus	Coniferae	Packing wood	China	Austria	1
Plagionotus arcuatus	*Quercus robur*	Wood	Russia	Poland	1
Scolytidae, *Bursaphelenchus*	Coniferae	Packing wood	China	Austria	1
	Coniferae and Hardwood	Packing wood	China	Austria	1
	Pinus	Packing wood	China	Austria	1

- **Bonsais**

12 consignments of bonsai plants (*Buxus*, *Ficus*, *Ilex crenata*, *Pinus pentaphylla*, *Serissa*, *Zelkova*, *Zelkova serrata*) from China (9) Japan (2) and Taiwan (1) were intercepted by Netherlands (8) and United Kingdom (4) because of the presence of the following pests: *Cinara*, *Helicotylenchus dihystera*, *Rhizoecus hibisci*, *Stegophora ulmea*, *Xiphinema americanum*

Source: EPPO Secretariat, 2000-01.