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POUR LA PROTECTION DES PLANTES

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Reporting

Service

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2003/083 First report of *Erwinia amylovora* in Slovak Republic

The NPPO of Slovakia recently informed the EPPO Secretariat of the first findings of *Erwinia amylovora* (EPPO A2 quarantine pest). The first outbreaks of fireblight on the territory of the Slovak Republic were detected in mid-June. These outbreaks were detected at 8 sites in southern Slovakia, mainly in regions bordering Hungary. All cases were trees grown in private gardens. Quince (5 cases), apple tree (2 cases) and pear (1 case) were attacked by the disease. 7 cases were detected in Košice-okolie district (south-eastern Slovakia) and 1 case in Levice district (south-western Slovakia). Emergency phytosanitary measures to eradicate the disease and to hinder any further spread have been taken and monitoring of the infected regions has been intensified as required by the Slovak law currently in force.
The situation of *E. amylovora* in Slovakia can be described as follows: **Present, first detected in June 2003 only in private gardens, 7 cases in Košice-okolie district (south-east) and 1 case in Levice district (south-west), under eradication.**

Source: NPPO of Slovakia, 2003-07-03

Additional key words: new record **Computer codes:** ERWIAM, SK

2003/084 First report of *Scirtothrips dorsalis* in Israel

PPIS, the National Plant Protection Organization of Israel, recently informed the EPPO Secretariat of the discovery in Israel of the invasive alien quarantine pest *Scirtothrips dorsalis* (EPPO A1 quarantine pest), commonly called the castor or yellow tea thrips. This polyphagous pest was first found in 2001 all along the length of the border with Egypt infesting *Limonium* plants in commercial cultivation as well as *Acacia* and castor bean (*Ricinus communis*) growing in the wild. An initial delimiting survey at the time indicated distribution to be restricted to the border region. At present, comprehensive surveillance is continuing across the country to determine the exact extent of spread and host range, parallel to ongoing official efforts to reduce or contain the damage, specifically by chemical control among other phytosanitary measures. The declared status of *Scirtothrips dorsalis* in Israel is: **Quarantine pest: distribution limited and subject to official control**.

Source: NPPO of Israel, 2003-07.

Additional key words: new record **Computer codes:** SCITDO, IL

2003/085 Survey on potential vectors of *Bursaphelenchus xylophilus* in Portugal

In March 1999, *Bursaphelenchus xylophilus* (EPPO A1 quarantine pest) was reported for the first time in Portugal, on dying *Pinus pinaster* near Setúbal (see EPPO RS 99/152). Surveys have showed that the infestation is limited to the Setúbal Peninsula and its surroundings. Preliminary studies were done to identify potential insect vectors. In the infested area (near Pegões), mature *Pinus pinaster* trees were felled. All adult insects present were collected and identified. Wood with immature stages was kept in controlled conditions allowing adult emergence. A total of 1367 specimens were collected (21 species belonging to 6 families). No scolytid beetle was found to carry *B. xylophilus*, which is consistent with other studies made in Japan and USA. Similarly, 7 cerambycids and all the buprestids and curculionids collected did not carry *B. xylophilus*. Only *Monochamus galloprovincialis* (Coleoptera: Cerambycidae) was found associated with *B. xylophilus*. The number of nematodes carried by individuals of *M. galloprovincialis* was less than that is carried by the most efficient vectors of *B. xylophilus* in other parts of the world (*M. alternatus* in Japan, and *M. carolinensis* in USA).

Source: Sousa, E.; Naves, P.; Bonifácio, L.; Bravo, M.A.; Penas, A.C., Pires, J.; Serrão, M. (2002) Preliminary survey for insects associated with *Bursaphelenchus xylophilus* in Portugal.
Bulletin OEPP/EPPO Bulletin, 32(3), 499-502.

Additional key words: epidemiology **Computer codes:** BURSXY, PT

2003/086 Results of surveys for potato bacteria in Germany (harvest 2002)

The NPPO of Germany recently informed the EPPO Secretariat of the results of the surveys carried out on the 2002 potato harvest for the presence of *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* (both EPPO A2 quarantine pests). Results of the 2001 survey were presented in EPPO RS 2002/143.

- ***Clavibacter michiganensis* subsp. *sepedonicus* (ring rot)**

In the framework of the survey of potatoes during the production season 2002, carried out on the basis of Council Directive 93/85/EEC, 17,049 samples in total were tested in the laboratory for ring rot. Samples were taken from seed potatoes (10,837 samples), ware potatoes (4,920 samples), from gene banks and breeding material, and from potatoes in trade. Thorough analyses were carried out to trace back the origin and relationship of infections. Ring rot was found in 4 cases in seed potato production and in 27 cases in ware potatoes. As in previous years, control measures according to Council Directive 93/85/EEC were taken. As to seed potato production, the ring rot situation has significantly improved in 2002 as to all

aspects (number of affected Federal States, places of production, lots and cases) in comparison to that of previous years. This may be attributed to consequently applied harmonized eradication measures and improved mutual information.
Pest status: Present in some areas at low prevalence; under eradication.

- ***Ralstonia solanacearum* (brown rot)**

In the framework of the survey of potatoes during the production season 2002, carried out on the basis of Council Directive 98/57/EC, 16,684 samples were tested for brown rot. Samples were taken from seed potatoes (10,837 samples), ware potatoes (4,555 samples), from gene banks and breeding material, and from potatoes in trade. In seven Federal States, in total 146 samples from watercourses were tested for contamination with brown rot. Seed potatoes were not found to be infected with *Ralstonia solanacearum*. Infection was found in one case in ware potatoes. Thorough analyses were carried out in order to trace back the origin of infection, which could however not be clarified. Contamination of watercourses was found at four sampling sites that had already been found positive during the previous sampling in 2001.
Pest status: transient, single case; under eradication.

Source: **NPPO of Germany, 2003-07-10.**

Additional key words: detailed record **Computer codes:** CORBSE, PSDMSO, DE

2003/087 Results of the 2002/2003 survey on *Potato spindle tuber pospiviroid* in France: eradication has been achieved

The NPPO of France recently informed the EPPO Secretariat of the results of the 2002/2003 survey on *Potato spindle tuber pospiviroid* (EPPO A2 quarantine pest). It can be recalled that a few findings had been made in 2001 (see EPPO RS 2002/145). Surveys were done in the areas where PSTVd had been found. All potato material from these areas, either grown under glasshouse or in the field, was tested. All potato lots (i.e. 387 potato lots corresponding to more than 8,000 tests) gave negative results. In addition, surveys were done to verify the absence of PSTVd from the French production of seed potatoes. Therefore tests were also done on potato material from the national collection (located at Hanvec, Bretagne), from collections of 3 regional centres of seed potato production, and also on 10% of seed potato lots (B1 to B4 seed potato lots produced in 2002). In total, more than 4,500 tests were performed and all results were negative.
The declared status of *Potato spindle tuber pospiviroid* in France is: **Absent, eradicated**.

Source: **NPPO of France, 2003-07.**

Additional key words: eradication **Computer codes:** PSTVD0, FR

2003/088 Present situation of *Rhynchophorus ferrugineus* in Israel

In Israel, surveillance and control of *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae – EPPO Alert List) started in spring 1999, in the south of the Jordan Valley (see EPPO RS 99/119). The area of infestation was delimited and the following phytosanitary measures were taken:

1) *R. ferrugineus* was declared a quarantine pest, and the infested area was delimited on the basis on adult catches with aggregation pheromone traps (it included 600 ha of date palm plantations).
2) Mass trapping was organized (at first 10-12 traps/ha, then decreased in 2000 to 1 trap/0.7 ha in infested areas and to 1 trap/3 ha in non-infested areas).
3) Chemical treatments of infested trees.
4) Destruction of heavily infested trees.
5) Preventive measures to avoid infestations (drip irrigation to maintain trunk dry, removal of offshoots, preventive sprays on trunks).
6) Regular inspections.

After 4 years of surveillance and control, the number of catches was reduced from 324 in 2000 to 26 in 2002, and no new infested tree was found in 2002.

Source: Hamburger, M.; Bitton, S.; Nakache, J. (2003) Control of red palm weevil (*Rhynchophorus ferrugineus*) (Coleoptera: Curculionidae), a quarantine pest in Israel.
Abstract of a paper presented at the 20th Conference of the Entomological Society of Israel (Bet Dagan, IL, 2003-02-11/12).
Phytoparasitica, 31(3), 299-300.

Additional key words: detailed record **Computer codes:** RHYCFE, IL

2003/089 *Ralstonia solanacearum* race 3 biovar 2 strains isolated from pelargonium are pathogenic on potato

In spring 1999, *Ralstonia solanacearum* (EPPO A2 quarantine pest) was isolated from zonal pelargonium (*Pelargonium* x *hortorum*) imported into Wisconsin (US) from Guatemala (since then, other cases have been reported see EPPO RS 03/064). Bacterial strains were isolated from wilted pelargonium from Wisconsin, New Jersey and South Dakota. Physiological tests showed that they belonged to biovar 2 (which is almost synonymous with race 3). When using PCR, race 3 biovar 2 specific primers amplified a DNA fragment of the expected size. It was concluded that bacterial strains isolated from pelargonium belonged to *R. solanacearum* race 3 biovar 2. Pathogenicity tests showed that these strains were highly pathogenic to potato (and pelargonium) under glasshouse conditions. The presence of *R. solanacearum* race 3 biovar 2 strains in USA raises concern that the bacterium could move from ornamental plants into potato fields.

Source: Williamson, L.; Nakaho, K.; Hudelson, B.; Allen, C. (2002) *Ralstonia solanacearum* race 3 biovar 2 strains isolated from geranium are pathogenic on potato.
Plant Disease, 86(9), 987-991.

Additional key words: host plants **Computer codes:** PSDMSO, US

2003/090 Citrus sudden death is a new disease in Brazil: addition to the EPPO Alert List

Citrus sudden death is a new lethal disease of unknown aetiology which has recently emerged in Brazil. First symptoms were observed in 1999 in Minas Gerais (in Triangulo Mineiro), and then spread to northern São Paulo which is a major citrus-growing area. It is estimated that 500 trees were affected in 1999, 300,000 at the beginning of 2002, and that the disease has killed approximately 1 million citrus trees within 20 months. Spatio-temporal studies suggested a biotic cause for the disease (possibly a vector-borne pathogen). So far, all attempts to detect fungi, bacteria, phytoplasmas and viroids failed. As the symptoms observed are similar to the quick-decline form of *Citrus tristeza closterovirus* (CTV – EPPO A2 quarantine pest), it is suggested that a particular strain of CTV could be involved in this lethal disease.

Citrus sudden death (a lethal citrus disease of unknown aetiology)

Why	Citrus sudden death came to our attention because it is a new disease which has led to the death of approximately 1 million citrus trees in Brazil. An important campaign has been launched in Brazil to control this lethal disease and start research programmes. The cause of citrus sudden death remains unknown but a pathogen is suspected.
Where	Brazil (Minas Gerais, São Paulo).
On which plants	Sweet orange (*Citrus sinensis* cvs. Baia, Baianinha, Hamlin, Natal, Pera, Rubi, Rio, Westin, Pineapple, Valencia), mandarins (*C. reticulata* cv. Cravo, Ponkan), tangelos (*Citrus x tangelo* cv. Orlando), all grafted on Rangpur lime (*C. limonia*). So far, the disease has not been seen on mandarins (*C. reticulata* cv. Cleopatra, *C. sunski*), on citrumelo (*Poncirus trifoliata* x *C. paradisi* cv. Swingle) or on *Poncirus trifoliata* rootstocks. In Brazil, because of the presence of *Citrus tristeza closterovirus* (CTV – EPPO A2 quarantine pest) and the considerable losses it caused in the 1930-40s, 85 % of citrus trees are now grafted on Rangpur lime (*C. limonia*) which is a CTV-resistant rootstock.
Possible cause	Spatio-temporal studies suggested a biotic cause (possibly a vector-borne pathogen). Remarkable similarities with spatial patterns presented by CTV-infected trees in the presence of its most efficient aphid vector *Toxoptera citricida* were observed. So far, all attempts to detect fungi, bacteria, phytoplasmas and viroids failed, only CTV was detected in symptomatic trees (as well as in asymptomatic trees) by using electron microscopy, serology, and comparison of dsRNA patterns. Finally, symptoms observed are similar to the quick-decline form of CTV. Therefore, it is suggested that a particular strain of CTV could be involved in this lethal disease.
Damage	Initial symptoms are a generalized foliar discoloration. Affected trees show partial defoliation, fewer new shoots, absence of internal shoots, and finally die. Fruits are usually normal, but remain attached to the dying or dead trees. Death of large portions of roots is observed. A yellow stain can develop in the phloem of *C. limonia*. Trees can be killed within 1 to 12 months after the first appearance of symptoms. Pictures can be viewed on Internet (http://www.fundecitrus.com.br/msubita.html).
Transmission	Unknown, but spatio-temporal studies suggested that vectors could be involved.
Pathway	If the causal agent is indeed a particular strain of CTV, a possible pathway could be: Citrus plants for planting from infected regions in Brazil (but normally this pathway is closed), fruits with leaves and peduncles, viruliferous vectors.
Possible risks	Citrus are important crops in Mediterranean countries mainly for fruit production but also for ornamental purposes. The risk of establishment of this particular CTV strain (if this hypothesis is verified) is difficult to predict as the Mediterranean epidemiological situation differs from the Brazilian one: in the Mediterranean region most sweet oranges are still grafted on sour orange rootstocks (*C. aurantifolia*) and the most efficient vector *Toxoptera citricida* is broadly absent. However, as the disease is so devastating in Brazil, precautions should be taken not to introduce it into the EPPO region.
Source(s)	Bassanezi, R.B.; Bergamin Filho, A.; Amorim, L.; Gimenes-Fernandes, N.; Gottwald, T.R.; Bové, J.M. (2003) Spatial and temporal analyses of citrus sudden death as a tool to generate hypotheses concerning its etiology. Phytopathology, 93(4), 502-512. ProMED postings of 2003-03-20 & 21. Citrus sudden death, oranges – Brazil (01 & 02). http://www.promedmail.org Fundecitrus – Fund for citrus plant protection (Brazil). Morte Súbita dos citros. http://www.fundecitrus.com.br/msubita.html Partnerships are the way to speed up solutions. http://www.fundecitrus.com.br/editorus.html

EPPO RS 2003/090
Panel review date - Entry date 2003-06

EPPO *Reporting Service*

2003/091 ‘Brittle leaf’ is a new lethal disease of date palm: addition to the EPPO Alert List

The EPPO Secretariat has recently been informed by Dr Alrouechdi (FAO/SNEA, Tunis) that an emerging disease called ‘Brittle leaf disease’ (maladie des feuilles cassantes) was causing serious damage to date palms in Tunisia. It was first described in 1986 in the oasis of Nefta (although similar symptoms were already observed in the 1960s) and has now spread to almost all oases south of Tunis. It has been found in Tozeur, Al-Hamma, Tamarza, Gafsa, Kebili and Gabes. Although the cause of the brittle leaf disease remains unknown, the EPPO Secretariat decided to add it to the EPPO Alert List because of its severity on an important crop such as date palm.

Brittle leaf disease (Maladie des feuilles cassantes - a lethal disease of date palm)

Why	A new lethal disease called brittle leaf disease (maladie des feuilles cassantes) has been reported from Tunisia since the 1960s, but is now taking alarming proportions. 36,000 trees are now affected by this disease of unknown aetiology and many other trees have already been killed and removed.
Where	Tunisia (in the south where date palm trees are growing). It has been found in Nefta, Tozeur, Al-Hamma, Tamarza, Gafsa, Kebili and Gabes. Similar symptoms have been observed in Algeria.
On which plants	Date palm (*Phoenix dactylifera*). The disease has been observed on most Tunisian varieties including Deglet Nour, Tozer Zaid, Akhouat Alig, Ammaria, Besser, Kinta, as well as seedling trees and pollinator trees. Kintichi seems to be relatively tolerant. No data is available on other possible hosts, for example on ornamental palms.
Damage	At the beginning, a few fronds are chlorotic with a dull, olive green colour. Leaflets become brittle, twisted, frizzled and shrivelled with a scorched appearance. The most characteristic symptom is the ease with which leaflets can be broken. Necrotic streaks develop on the pinnae. These symptoms gradually extend to the nearby fronds until the whole tree is affected, and die. 4 to 6 years may elapse between first symptoms and death of the tree. Symptoms occur on trees of all ages, including offshoots and small seedlings.
Possible cause	Symptoms resemble those of manganese deficiency, but sprays or injections of manganese do not solve the problem (at least there is a delay in symptom expression), and mineral soil analysis could not reveal differences between diseased and healthy plots. Patterns of diseased trees observed in the field suggest a biotic origin, as affected trees seem to cluster into foci. A small dsRNA has been found associated with symptomatic trees but could not be related to a known pathogen.
Dissemination	Unknown.
Pathway	Unknown. However, if pathogens (such as viroids or phytoplamas) are involved, there may be a risk associated with planting material.
Possible risks	Date palms are important crops around the Mediterranean basin, especially in Maghreb countries. The disease has apparently the ability to kill a large number of trees, and if a pathogen is involved efforts should be made to prevent any further introductions and spread.
Source(s)	Personal communication with Dr K. Alrouechdi (FAO/SNEA – Tunis), 2003-05. Boletín Informativo de la Socieda Española de Fitopatología, no. 35, September 2001. http://www.sef.es/notisef_fr.htm

EPPO RS 2003/091
Panel review date - Entry date 2003-06

EPPO *Reporting Service*

2003/092 Surveys on viruses and viroids of stone fruits in Syria

Surveys on viruses and viroids of stone fruits were done in Syria, in 7 Governorates (Damascus, Daraa, Al Swidaa, Homs, Hama, Edleb and Aleppo) representing the main stone fruit-growing areas. Stone fruits are important crops in Syria, particularly in southern and central parts of the country (total area is about 82,759 ha with an annual production of 257,000 t). Samples were collected from private and commercial orchards, varietal collections and national mother blocks used for seed and budwood production and tested (ELISA, herbaceous and woody indicators, dot-blot). A total of 1337 samples were tested (444 apricot, 283 peach, 246 cherry, 222 almond and 142 plum). The overall infection rate was 13% (peach 24%, cherry 16%, almond 13.5%, apricot 6%, plum 5%). The following pathogens were detected: *Prunus necrotic ringspot ilarvirus, Prune dwarf ilarvirus, Apple chlorotic leaf spot trichovirus, Plum pox potyvirus* (PPV - EPPO A2 quarantine pest), *Apple mosaic ilarvirus* (EPPO A2 quarantine pest), *Peach latent mosaic pelamoviroid* and *Hop stunt hostuviroid*. *Plum pox potyvirus* (PPV-M strain) was detected in 1 apricot tree. PPV had previously been reported from Syria, but it seems that the destruction of infected trees carried out by local institutions was effective in controlling the disease. It was concluded that the sanitary situation of stone-fruit trees in Syria was generally satisfactory but that national certification programmes were desirable.

Source: Ismaeil, F.; Myrta, A.; Abou Ghanem-Sabanadzovic, N.; Al Chaabi, S.; Savino, V. (2002) Viruses and viroids of stone fruits in Syria.
Bulletin OEPP/EPPO Bulletin, 32(3), 485-488.

Additional key words: detailed records **Computer codes:** APMV00, PPV000, SY

2003/093 Phytoplasmas of fruit trees and grapevine in Albania

In 8 districts of Central and South-Eastern Albania, orchards and vineyards were surveyed for the presence of phytoplasma diseases. Symptoms of European stone fruit yellows, apple proliferation, pear decline and grapevine yellows were observed. Samples were collected and tested in the laboratory. As a result: 5 fruit trees (apricot, myrobalan and plum) were infected by European stone fruit yellows phytoplasma, 5 apple trees by apple proliferation phytoplasma (EPPO A2 quarantine pest), and 1 pear tree by pear decline phytoplasma (EPPO A2 quarantine pest). All tested grapevines had bois noir, but were not infected by grapevine flavescence dorée phytoplasma (EPPO A2 quarantine pest). These are the first reports of phytoplasma diseases of fruit trees and grapevine in Albania.
The situation of both apple proliferation and pear decline phytoplasmas in Albania can be described as follows: **Present, no details**.

Source: Myrta, A.; Ermacora, P.; Stamo, B.; Osler, R. (2003) First report of phytoplasma infections in fruit trees and grapevine in Albania.
Journal of Plant Pathology, 85(1), p 64.

Additional key words: new records **Computer codes:** PHYP14, PHYP15, AL

EPPO *Reporting Service*

2003/094 *Cacopsylla melanoneura* is a vector of Apple proliferation phytoplasma

In recent years, Apple proliferation phytoplasma (EPPO A2 quarantine pest) has become an increasing problem in apple orchards in Italy. In earlier studies, the psyllid species *Cacopsylla costalis* (synonym *C. picta*) had been identified as a vector of Apple proliferation phytoplasma in Trentino (northern Italy) and Germany (see EPPO RS 2003/047 and 2001/068). Studies were done in apple orchards from 1999 to 2001 in the Val d'Aosta and included: observation of symptoms in apple orchards with PCR confirmatory tests, collection of psyllids (yellow sticky traps and beating), detection of phytoplasma in psyllids and transmission trials. Apple proliferation phytoplasma was indeed present in the Val d'Aosta orchards studied. It is pointed out that the disease had not previously been reported in this area. Psyllids collected in the apple orchards were identified as *Cacopsylla melanoneura* (Homoptera: Psyllidae). Results of PCR detection in insect body and transmission trials showed that this psyllid species can transmit Apple proliferation phytoplasma. Observations made in Italian orchards confirmed that *C. melanoneura* overwinters in adult stage and has one generation per year. Overwintered psyllids started to colonize apple trees in January, and springtime generation was observed in early May. Offspring adults remained in apple orchards until the end of June, when they began to move onto other hosts. In 2000/2001, seasonal abundance of *C. melanoneura* was measured using yellow sticky traps. The vector was always present at low population levels, and highest density was recorded from mid-February until mid-March. This showed that the overwintered population is higher and spends a longer period in apple orchards, suggesting that overwintered adults of *C. melanoneura* may play a crucial role in the transmission of the phytoplasma.

Source: Tedeschi, R.; Bosco, D.; Alma, A. (2002) Population dynamics of *Cacopsylla melanoneura* (Homoptera: Psyllidae), a vector of Apple proliferation phytoplasma in Northwestern Italy.
Journal of Economic Entomology, 95(1), 544-551.

Tedeschi, R.; Visentin, C.; Alma, A., Bosco, D. (2003) Epidemiology of apple proliferation (AP) in north western Italy: evaluation of the frequency of AP-positive psyllids in naturally infected populations of *Cacopsylla melanoneura* (Homoptera: Psyllidae).
Annals of applied Biology, 142(3), 285-290.

Additional key words: epidemiology **Computer codes:** APPXXX, PSYLSP

2003/095 Phytoplasmas associated with elm yellows

In USA, elm yellows (formerly called elm phloem necrosis – EPPO A1 quarantine pest) is a widespread and serious disease of elm associated with a phytoplasma (Elm yellows phytoplasma). This disease has been observed on *Ulmus americana* and also on other species, such as: *U. alata, U. crassifolia, U. rubra* and *U. serotina*. It is present in central and southern states (from 32° to 46° north latitude) and also in Pennsylvania, New York, New Jersey, Massachusetts. A putative vector is *Scaphoideus luteolus* (Homoptera: Cicadellidae – EU Annexes). Highly susceptible trees generally die within one growing season after the first symptoms have appeared. Affected trees showed premature yellowing, leaf epinasty, butterscotch discoloration of inner bark accompanied with an odour of wintergreen oil (methyl salicylate). So far, only a phytoplasma belonging to group 16SrV had been found in association with diseased elms. However, phytoplasmas belonging to another group have recently been found in dying elms in Illinois. Since the last 10 years more than 1000 mature elm trees have died near Chicago (first in 1991 in the village of Arlington Heights). Elm yellows was suspected but symptoms observed differed slightly and tests often failed to detect the phytoplasma. PCR and RFLP revealed the presence of a phytoplasma belonging to another group (16SrVI-C). Until this finding, it was thought that in North America, elm yellows was always associated with strains of elm yellows phytoplasma. This new phytoplama has been called Illinois elm yellows phytoplasma.

In Europe, the situation of elm yellows is quite different. Elm species of European and Asiatic origin (and their hybrids) rarely die from the disease. Affected trees may show a general decline, stunting, chlorosis and witches' brooms. The disease does not spread rapidly and can remain localized for many years. The vector *Scaphoideus luteolus* does not occur in Europe. Phytoplasmas associated with elm yellows have been reported from France and Italy, most of them are members of 16SrV-A, 16SrI-B and 16SrXII groups (so different from the North American ones). Mixed infections are also reported. Recent studies have showed that phytoplasmal DNA could be detected in flowers and seeds of elm trees infected with elm yellows, but it could not be detected in plant progeny. Preliminary studies have also showed that asymptomatic weeds could harbour the same phytoplasmas.

Source: Bertelli, E.; Tegli, S.; Sfalanga, A.; Surico, G. (2002) Detection of phytoplasmal DNA in flowers and seeds from elm trees infected with Elm Yellows.
Phytopathologia Mediterrannea, 41(3), 259-265.

Jacobs, D.A.; Lee, I.M.; Griffiths, H.M.; Miller, F.D. Jr; Bottner, K.D. (2003) A new member of the clover proliferation phytoplasma group (16SrVI) associated with elm yellow in Illinois.
Phytopathology, 87(3), 241-246.

Sfalanga, A.; Martini, M.; Surico, G.; Bertaccini, A. (2002) Involvement of phytoplasmas in a decline of *Ulmus chenmoui* in Central Italy.
Forest Pathology, 32, 265-275.

University of Illinois - Extension. Report on Plant Disease, no. 660. May 1998. Elm yellows or phloem necrosis and its control.
http://www.ag.uiuc.edu/~vista/abstracts/a660.html

Additional key words: etiology **Computer codes:** PHYP63

2003/096 Automatic optical sorting can be used to detect wheat kernels infected with *Tilletia indica*

High-speed optical sorters were tested successfully to detect wheat kernels infected by *Tilletia indica* (EPPO A1 quarantine pest) in seed lots. Samples of 1,800 g are sorted in less than 1 minute, and optical sorters can process up to 8,800 kg/h. These optical sorters can be used to detect infection in wheat samples and help phytosanitary inspections and they can also be used to remove bunted kernels from large lots of wheat seeds.

Source: Dowell, F.E.; Boratynski, T.N.; Ykema, R.E.; Dowdy, A.K.; Staten, R.T. (2002) Use of optical sorting to detect wheat kernels infected with *Tilletia indica*.
Plant Disease, 86(9), 1011-1013.

Additional key words: detection **Computer codes:** NEOVIN

2003/097 MPU Workshop on molecular diagnosis of plant pathogens (Lamezia Terme, IT, 2003-11-20/23)

A Workshop on molecular diagnosis of plant pathogens will be organized by the Mediterranean Phytopathological Union in collaboration with the Mediterranean University of Reggio Calabria and the Italian Societies of Nematology and Phytopathology at Lamezia Terme (Italy) on the 2003-11-20/23. The aim of this workshop is to discuss advanced methodologies for the diagnosis of plant pathogenic fungi, bacteria, nematodes and viruses. Registration fees will be 120 euros and will include transportation from/to airport or railway station, hotel, social events and workshop documents.

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Source: **EPPO Secretariat, 2003-06.**

Additional key words: conference **Computer codes:** IT

2003/098 International Workshop: Invasive Alien Species and the IPPC (Braunschweig, DE, 2003-09-22/26)

The workshop on "Invasive Alien Species and the IPPC" is being held in Braunschweig, Germany on 22-26 September 2003 and is being organized jointly by the IPPC Secretariat and the German government. The intent of the workshop is to improve understanding of how the IPPC can be used in the management of invasive alien species.

The following themes will be presented and discussed during the workshop:

- Review of existing phytosanitary measures (including legislation, regulation and official procedures)
- Scientific and technical needs of National Plant Protection Organizations
- Delivery capacity of National Plant Protection Organizations (inspections, detection, pest-free areas, eradication, containment, etc.)
- Information access and sharing

The workshop is attempting to reach a broad spectrum of people who could utilize and benefit from the systems developed through the IPPC framework. Participation will be from developed and developing countries and will represent various sectors such as plant protection, environmental, forestry, and regulatory bodies. The workshop will be a good opportunity to share experiences and learn from each other.

For more information (including registration forms and travel assistance applications) please visit the workshop's homepage at:
http://www.ippc.int/IPP/En/Archive/IAS2003/IAS-WORKSHOP-Home.htm

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Deadline for registration: 2003-08-20

Source: IPPC Secretariat, 2003-07.

Additional key words: conference