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CONTENTS

97/111 Situation of *Ralstonia solanacearum* in the EPPO region (latest update)

Ralstonia solanacearum (EPPO A2 quarantine pest) in the last few years has been reported at a number of locations in northern Europe and is continuing to be so reported. In order to clarify the situation of potato brown rot throughout the EPPO region, a questionnaire was sent at the end of 1995 to all EPPO member countries, and the answers were presented in EPPO RS 96/002. Since then, new information was given by several countries and was published in the EPPO Reporting Service articles 96/022, 96/090, 96/182, 96/183, 97/007, 97/024 and 97/025. Finally, a round-table session on the present country situation took place during the EPPO Conference on *Ralstonia solanacearum* (Verona (IT), 1997-03-25/27). A compilation from all these different sources of information is given below. It is presumed that all occurrences on potato in Europe are race 3 of *R. solanacearum*. **Asterisk shows that new information was presented at Verona.**

Austria*: In the previous report (EPPO RS 96/002), it was stated that IF-positive results were obtained for three samples of potatoes in 1995. However, when they were retested (IF with a new serum and pathogenicity tests), the results were all negative. These lots were used as ware potatoes. In Austria, a seed potato certification scheme is in place and post-harvest control for each lot and each category is performed. So far, *R. solanacearum* has not been found from Austria.

Belgium*: Prior to 1989, *R. solanacearum* was never found in Belgium. A small area near the border with the Netherlands was found to be infested over the years 1989-1991, and strict survey and control measures were imposed (see EPPO RS 93/070). Cultivation of potatoes was prohibited in a quarantine area of several communes around the infected plots. Intensified surveillance was applied to potato crops all over Belgium, with laboratory testing of seed potato samples, regular visual inspection of seed potato crops throughout Belgium. No case of potato brown rot was found in seed potatoes. Since 1992, intensive surveys have been carried out for ware potatoes and seed potatoes. 20 % of seeds potatoes produced in Belgium have been tested in the laboratory, production fields have been inspected at least twice a year and all lots have been visually inspected. In 1993 and 1994, only a single case of infestation per year was found and infected crops were destroyed. *R. solanacearum* has not been found in Belgium in 1995 and 1996, and in particular has not been found in any of the production sites of ware potatoes where the disease was found in previous years. These results indicate that the disease has been eradicated on potatoes. Since the previous reports (EPPO RS 96/002, 96/183), surveys have been carried out on surface waters and *Solanum dulcamara*. In 1995, waters and *S. dulcamara* were tested in the area where the bacterium had been found and its surroundings. In 1996, a survey was conducted on all waterways near potato

production sites and near potato-processing industries. As a result, some contaminations were found in canals near the area where infection had been observed, but no other contamination was found on the Belgian territory. In addition to prophylactic measures applied to the whole country, the area where water contamination has been found is strictly delimited, and it is prohibited to use water for irrigation and phytosanitary treatments. It is strongly felt that the origin of the previous contamination is linked to industrial potato-processing installations. It is suggested that the bacterium may have reached potato crops thought surface water, *S. dulcamara* and irrigation.

Bulgaria: *R. solanacearum* was reported for the first time in Bulgaria on tomato in 1944, and was then observed in 1951 on sunflower. These two foci were eradicated and since then *R. solanacearum* has not been found in Bulgaria. Inspections carried out in 1994 and 1995 have not revealed the presence of the bacterium.

Croatia: *R. solanacearum* has never occurred in Croatia.

Cyprus*: *R. solanacearum* was found only once on potatoes in October 1955 in 'Shia Village' which is not a traditional potato-growing area. Eradication measures were applied and the disease was not further reported. The official authorities consider that Cyprus (southern part of the island) is now free from *R. solanacearum* but stress that they can only speak for the southern part of the island and not for the northern part. Although it is feared that brown rot may be present in the northern part of the island, as descriptions of symptoms on potato crops are reported in Turkish Cypriot newspapers (EPPO RS 97/007), this has not been confirmed.

Czech Republic: *R. solanacearum* has never been found in Czech Republic.

Denmark*: *R. solanacearum* has not been found in Denmark in 1994, 1995 and 1996. In 1995/96, all tests carried on ware and seed potato samples, imported or from Denmark gave negative results. It can be noted that surface water is not used for irrigation or potato crops. Brown rot of potato has never occurred in Denmark. A previous EPPO record refers to an interception on ornamental *Musa* only (presumably race 2).

Estonia: *R. solanacearum* has never occurred in Estonia.

Finland*: *R. solanacearum* has never been found in potatoes grown in Finland but has been intercepted in one case on ware potatoes from Egypt, on the basis of visual symptoms. Tests carried on domestic production gave negative results.

France*: In 1994, an infection was reported on tomato and another on aubergine, in Aquitaine and Pays-de-Loire. It must be noted that these regions are not seed potato-producing areas. In autumn 1995, four foci of *R. solanacearum* were observed. Two foci were found on tomato crops grown in glasshouses in Lot-et-Garonne (Aquitaine) and Loire-Atlantique (Pays-de-Loire), one focus was found on outdoor tomatoes in Lot-et-Garonne, and a focus was observed on a plot for comparative trials of potatoes in an experiment station located in Essonne, far away from production areas of seed and ware potatoes. All these foci have been eradicated, production sites and equipment have been completely disinfected. On plots where infection has been found, it is prohibited to grow any susceptible plants for a minimum period of 3 years and the absence of volunteer plants and wild Solanaceae has to be checked. Surveys are carried out on seed and ware potatoes, with visual inspections and laboratory tests. For 1996, results of the 7300 tests (covering 14000 ha of certified potatoes) carried out on seed potato production were all negative. Similarly, no positive result was found for ware potatoes. A survey of waterways and *S. dulcamara* has been implemented in 1996. Of 200 tests done on *S. dulcamara*, only one was confirmed as positive. Surveys on the national territory and on potato imports will continue.

Germany*: Until very recently, *R. solanacearum* was never reported in Germany. For the 1995 harvest 2500 samples of seed potatoes and 200 of ware potatoes were tested. Samples are tested by IF and PCR in parallel, and if a positive result is found, bioassays are performed on tomato or aubergine. All results were negative in 1995. For 1996, one sample has given a positive result which is being confirmed by fatty acid profiles, PCR, bioassay and pathogenicity tests. The sample came from Brandenburg near Berlin. In the farm concerned (field of 2-5 ha), there is a small production of potato and sugarbeet for animal fodder. The seed potatoes had been multiplied for many years for the own use of the grower and cannot be connected to any imports; they are mixtures of different cultivars. The area is not irrigated. The grower will not be allowed to grow potatoes for 5 years in this field, and he will have to used certified potatoes in areas where potatoes have not been grown for 12 years. Machinery was disinfected. Investigations carried out in the surroundings of this farm gave negative results. The origin of the contamination could not be traced, but investigations are continuing. In 1996, surveys were also done on water from potato-processing installations and the bacterium was not found.

Guernsey: *R. solanacearum* has never occurred in Guernsey.

Hungary*: Visual examination and laboratory tests carried out in Hungary have shown that *R. solanacearum* is not present in the country. No infection was found in any tested samples of imported seed potatoes.

Ireland: *R. solanacearum* has never been found in Ireland. All surveys gave negative results.

Israel*: At present, potato brown rot does not occur in Israel and is considered as a quarantine pest. In the early 1970s, it was found in several potato fields in one location in Israel but was successfully eradicated. In 1993, a survey was carried out throughout the country and concerned potato brown rot, potato ring rot (*Clavibacter michiganensis* subsp. *sepedonicus*) and potato spindle tuber viroid. None of these diseases was found. In 1994, *R. solanacearum* has been found in *Curcuma* plants grown in glasshouses from bulbs imported from the Netherlands (presumably race 1). Measures were immediately taken, including destruction of all infected bulbs and plants, and fumigation with formaldehyde. Tests carried out in 1995 and 1996, on imported and Israeli potatoes gave negative results, with the exception of one imported lot of ware potatoes in 1995 which was sent back to the country of origin.

Italy*: Before 1995, brown rot of potato was never found in Italy. During June 1995, foci of potato brown rot have been suspected in Veneto and Emilia-Romagna after import of infected seed potatoes. These certified seed potatoes (cvs. Primura and Liseta) were imported from the Netherlands. The infected potatoes were destroyed and phytosanitary measures have been taken to eradicate these foci and to prevent further spread of the disease to other potato fields and other solanaceous crops. In addition, the Ministry of Agriculture has taken measures at the EU level regarding the marketing of seed potatoes from the Netherlands to prevent further introductions into Italy. In 1996, all results of field surveys including those from Veneto and Emilia-Romagna were negative.

Jersey: *R. solanacearum* has never been found in Jersey. In 1995, symptoms on tomato were found suspicious but during tests, *R. solanacearum* was not isolated.

Latvia*: *R. solanacearum* is not present in Latvia. A few reports were made in the past but have never been confirmed. Surveys based on visual examination were all negative. A programme for testing imports will soon be implemented.

Malta: *R. solanacearum* has never occurred in Malta.

Morocco: Although there have been some old records of *R. solanacearum* on tomato and *Capsicum* made in the 1940s, since then the bacterium has never been found on these crops or on potatoes. Therefore, *R. solanacearum* should be considered as absent from Morocco.

Netherlands*: In 1995, *R. solanacearum* (EPPO A2 quarantine pest) was reported in the Netherlands (EPPO RS 96/001). From the middle of October 1995, before the

beginning of the main potato trade season, all seed potato lots were tested and only lots found free were marketed.

The results of the 1995 survey are the following. Approximately 51,000 samples were collected and tested for *R. solanacearum*. These samples were mainly seed potatoes but also ware potatoes. In total, 94 farms have been found infested, including 54 seed potato-growing farms. Foci were located in almost all potato-growing areas, many of them are connected by the use of a clonal line (cv. Bildstar), which is essentially grown for the Dutch market. Some of the infestations can be related to the use of machinery in common. In November 1995, samples of surface water were taken in a limited number of areas where infestations could not be explained by clonal or machinery relations. In one of these areas, infected surface water was discovered. Measures were taken in infected farms in order to eradicate the disease and prevent any further spread.

During the 1996 season, all seed potato lots from one place of production have been tested for the bacterium before a plant passport or a phytosanitary certificate was issued and marketing allowed. Sampling and testing was carried out from mid-August to the end of November. Approximately 58,000 samples were tested from 3,100 seed potato growing farms. Infections with *R. solanacearum* were found on nine farms. On each farm, only one potato cultivar was infected. Seven of these farms were growing seed potatoes. Measures have been taken to prevent spread of the bacterium from all infected farms. Concerning the farms found infected during the 1995 season, which were allowed to grow ware potatoes, all potato lots of the 1996 season were tested and no infection was detected. In addition, an infection of *R. solanacearum* was found in one tomato glasshouse. The infection was due to the contamination of the surface water used for irrigation. However, irrigation of tomato crops with surface water is not a common practice in the Netherlands. This single glasshouse infestation has been eradicated by destroying all plant material and rockwool, and disinfecting the irrigation system, tools and premises.

To determine the extent of contaminated surface water and infected *Solanum dulcamara* plants, studies were started all over the Netherlands with emphasis on potato-growing regions in spring 1996. In several of the potato-growing regions, contaminations of surface water and/or *S. dulcamara* were detected. Areas with contaminated surface water have been demarcated. For potato lots from these demarcated areas posing a risk (use of surface water), only a controlled distribution as ware potatoes was allowed.

For research purposes, four water areas (3 contaminated, 1 free) are sampled every week. The bacterium could be detected in contaminated areas until the end of December when ice cover prevented any sampling and it was found in one of them immediately after ice melted in February. This fact suggests that the bacterium can survive in water during winter or is constantly released from infected *S. dulcamara*. The bacterium was also detected in a number of cases near waste installations of the potato industry. It is felt, although not proved that the origin could be contamination of

surface water with waste from infected material of imported early ware potatoes. Results of some preliminary experiments on the survival of *R. solanacearum* in/on different substrates under conditions of light and room temperature (first number) or dark and 4 °C (second number) could be obtained: surface water (survival 17-33 days), ditch mud (6-24 d), sewage of potato industry (23-53 d), chicken manure (23-30 d), cow manure (7-11 d). Survival on wood was 4 d, metal 14 d and rubber 55-87 d under dry conditions at room temperature.

Norway*: *R. solanacearum* has never occurred in Norway; it has never been intercepted on imports or detected on Norwegian potatoes.

Poland*: There are reports of *R. solanacearum* before 1945 but these are probably based on misidentifications. Since 1945, this pathogen has never been recorded in Poland.

Portugal*: *R. solanacearum* was found in potato fields during the 1940s and at the beginning of the 1950s. At that time, appropriate measures were taken and the bacterium was successfully eradicated. Recently, in April/May 1995, new outbreaks were found in ware potato fields located in the centre-coastal part of the country. After study, it was concluded that the source of these foci was infected seed potatoes imported from the Netherlands. Immediate action was taken to eradicate the disease. The measures applied included: lifting all potatoes in infected fields and transport under quarantine for destruction; disinfection of all material which had entered into contact with contaminated plants or soil; prohibition of the production of potato and other Solanaceae on the infected fields for 4 years; avoidance of water flow from infected fields to the immediate vicinity; application of cultural techniques which promote the acidity of the soil. In addition, the level of inspection and surveillance in the infected/suspect fields and their neighbouring areas has been increased. In 1996, only one field was found infested.

Romania: An occurrence of *R. solanacearum* has been reported only once in the Romanian literature, in 1957. The bacterium has never been identified by the Central Quarantine Laboratory (including in 1994 and 1995), and it is considered that the disease is not present in Romania.

Slovakia*: *R. solanacearum* has never occurred in Slovak Republic. In 1996, results of testing for brown rot were all negative.

Slovenia*: *R. solanacearum* has never occurred in Slovenia. Intense testing has been carried out since the reports of the disease in Europe. Potatoes are not irrigated in the main potato-producing areas.

Sweden*: An infestation was reported in the mid-1970s in the South of Sweden (Olsson, C. (1976) Experience of brown rot caused by *Pseudomonas solanacearum* (Smith) Smith in Sweden, EPPO Bulletin 6(4), 199-207) and was later eradicated. The first case was found in 1972 at Hököpinge on potatoes, and the disease was found again in 1973. Other outbreaks were found in Ostra Ljungby in 1973 on potatoes, and on *Solanum dulcamara* in 1974 and 1975. Speculations were made on the possible origin of the disease such as, infected seed potatoes, insects (*Leptinotarsa decemlineata*), soil and irrigation water. For the area of Hököpinge, none of these hypotheses could really be retained. But the other area of Ostra Ljunby, suspicion was directed towards the soil and irrigation water, as the infections were found downstream from a potato-peeling factory. Measures were taken on farms with infected fields (absence of potato crops for 3 years, no irrigation, disinfection, elimination of *S. dulcamara* plants). After 1975, no infestation was found. During studies carried out in 1980-84, no *R. solanacearum* was detected in waters. Tests have been carried out on *Solanum dulcamara* in the streams of the earlier infested areas in 1994-95. Very few plants could be found as the elimination programme was quite successful. None of the tested plants was infested. The authorities consider that Sweden is free from *R. solanacearum*.

Switzerland*: *R. solanacearum* is not present in Switzerland, and no symptoms have been seen during the recent period of outbreaks elsewhere in Europe. During tests and inspections carried out in 1995 and 1996, only one positive result was obtained on a ware potato consignment from Turkey on the basis of laboratory tests.

Tunisia: *R. solanacearum* has been reported in the past, in a limited area. However, observations on seed and ware crops of potato over the last two years have revealed no case of the disease.

Turkey: The disease is considered as absent in Turkey. It has been found in the past but is not established. However, in early 1995 some infected potato tubers (cv. Van Gogh) were found in a small part of Central Anatolia region. Intensive surveys have been set up and eradication measures are being applied.

Ukraine: According to the inspections and analysis carried out in Ukraine, *R. solanacearum* is not present.

United Kingdom*: Potato brown rot has been reported in United Kingdom, in the Oxfordshire region of England in 1992 (see EPPO RS 93/031). The farm in question has been under control since that time. Although infection was found in one or two "ground keeper" or "volunteer" tubers in the following season, no further re-occurrence of the disease was found on that farm. Extensive surveys of both ware and seed crops have been conducted since this first outbreak. A second case was

discovered in 1996. A sample of ware potatoes from the 1995 harvest was found contaminated by *R. solanacearum*. This sample was taken from a farm store situated near Slough (within the Thames basin), in the same area where the previous outbreak had been found. Investigations were carried out on seed from the same origin, as well as on sister stocks to the contaminated potatoes, and gave negative results. However, the bacterium was isolated from *Solanum dulcamara* growing in the water system from which the infected potatoes were irrigated. These weeds appear as the most likely source of infection. The following measures have been applied: potato growing is prohibited on the infected field, no seed potatoes are grown on the farm and monitoring of potato crops in other fields is performed.
In Scotland, *R. solanacearum* has never been detected in potatoes or *S. dulcamara* in the river systems. Surveys are carried out on Scottish seed and ware potato stocks. Tuber samples from 50 seed and 50 ware stocks are visually inspected for symptoms and tubers from another 50 seed and 50 ware stocks are sent for laboratory testing. Within certification scheme, all material entering *in vitro* collections for nuclear stock is tested for freedom from *R. solanacearum*, and during seed certification there are a minimum of two field inspections. No interception in potato material entering Scotland, from either the European Union or outside Europe has been made in recent years.

No data have been either received to the questionnaire or presented at the Conference from: Albania, Greece, Luxembourg, Russia and Spain. According to the data in the EPPO PQR system, *R. solanacearum* has been reported in Greece, Russia (not apparently on potato). In Spain (RS 95/011), it occurred in 1981 in the Canary Islands and was eradicated (never found on the mainland). In the 1970s, Yugoslavia reported *R. solanacearum* to be present locally, as was given in the first edition of the EPPO data sheet. In view of the declarations from Croatia and Slovenia, the affected regions must be elsewhere in ex-Yugoslavia. In the EPPO region, there are also records in: Algeria (not in coastal region), Armenia, Belarus (unconfirmed), Egypt, Georgia, Lebanon, Libya, Moldova.

Source: EPPO Secretariat, 1997-06

Computer codes: PSDMSO.

97/112 First report of *Xanthomonas arboricola* pv. *pruni* in France

The French Plant Protection Service has recently informed the EPPO Secretariat that three foci of *Xanthomonas arboricola* pv. *pruni* (EPPO A2 quarantine pest) were discovered in peach orchards in the south-east of France. This is the first report of *X. arboricola* pv. *pruni* in France. Further surveys are being conducted on the extent of the contamination.

Source: **French Plant Protection Service, 1995-05**

Additional key words: new record **Computer codes:** XANTPR, FR

97/113 First report of grapevine flavescence dorée phytoplasma in Spain

Grapevine flavescence dorée phytoplasma (EPPO A2 quarantine pest) has been found for the first time in Spain, in the region of Ampudan (Cataluña), near the French border. The causal agent of flavescence dorée was identified in October 1996 by using PCR technique. Severely affected grapevines were found in several foci covering approximately 23 ha. Measures have immediately been taken to eradicate the disease by destroying affected plants and establishing compulsory treatments against the vector *Scaphoideus titanus*.

Source: Anonymous (1997) Incidencia de las plagas y enfermedades en las Comunidades Autónomas durante 1996 – Cataluña.
Phytoma-España no. 87, 20-26.

Additional key words: new record **Computer codes:** GVFDXX, ES

97/114 First report of *Thrips palmi* in Cuba

The first report of *Thrips palmi* (EPPO A1 quarantine pest) in Cuba is brought to the attention of the EPPO Secretariat in a slightly unusual way. A small paper published in Agrow noted that the US State Department denied the claim made by the Cuban government that US had deliberately introduced *T. palmi* into Cuba by means of a crop spraying aircraft. Whatever the means of introduction were, it now seems that *T. palmi* is indeed present in Cuba.

Source: Anonymous (1997) US News in Brief – US denies deliberate pest release in Cuba.
Agrow, no. 280, p 16.

Additional key words: new record **Computer codes:** THRIPL, CU

97/115 Diseases of citrus in the Mediterranean and Near East regions

FAO has recently published a book from Dr J.M. Bové, untitled "Virus and virus-like diseases of citrus in the Near East region". This books gives descriptions of the major virus and virus-like diseases of citrus and then presents the phytosanitary situations observed during several missions made to Near East countries.
In addition, Dr Bové has presented a paper on major citrus diseases at the 10th Congress of the Mediterranean Phytopathological Union in which new information could be found. The EPPO Secretariat has tried to select from these sources the following new data on quarantine pests of citrus.

- Citrus tristeza closterovirus (EPPO A2 quarantine pest) is present in Somalia (new record according to the EPPO Secretariat) and in many Indian states for which we had previously no information: Andra Pradesh, Bihar, Haryana, Himachal Pradesh, Madhya Pradesh, Rajasthan, Sikkim, Uttar Pradesh, West Bengal.
  A new detection method has been developed in Florida and Spain: the direct tissue blot immuno-assay (DTBIA) which is faster than ELISA, but with an equivalent sensitivity (Garnsey *et al*., 1993).
  Toxoptera citricida (EPPO A1 quarantine pest, vector of tristeza) is also present in the following Indian states: Orissa and Punjab.

- Citrus greening bacterium (EPPO A1 quarantine pest) is present in Somalia (new record according to the EPPO Secretariat) and in many Indian states for which we

had previously no information: Andra Pradesh, Bihar, Delhi, Gujarat, Himachal Pradesh, Jammu, Karnataka, Kerala, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh. In India, citrus greening bacterium and its vector *Diaphorina citri* (EPPO A1 quarantine pest) are present in all citrus-growing areas. Another vector, *Trioza erytreae* (EPPO A1 quarantine pest) is highly suspected in Somalia and is present in Ethiopia.

- Citrus ringspot (EU Annex II/A1) and citrus psorosis diseases are thought to be induced by different strains of the same virus (EPPO RS 95/203). The morphology of the virus particles observed is complex and suggests that the virus represents a new genus related to tenuivirus. The name spirovirus had first been suggested, but more recently the term ophiovirus has been proposed.

- *Spiroplasma citri* (EPPO A2 quarantine pest) is present in Somalia, Oman, Sudan and United Arab Emirates (new records according to the EPPO Secretariat). New data are also given for its vectors:
  Neoaliturus haematoceps (EU Annex II/A2) is present in Cyprus, Egypt, Iraq and Saudi Arabia.
  Neoaliturus tenellus occurs in Iran and Saudi Arabia.

- *Hishimonus phycitis*, the putative vector of lime witches broom phytoplasma was found in Oman (in 1991) and was constantly associated with lime trees, both healthy and diseased. It was also found in 1993 in United Arab Emirates (where lime witches broom phytoplasma is also present). *Hishimonus phycitis* is a well known insect species in India and Pakistan (where lime witches broom has not been reported).

- The presence of mal secco (*Deuterophoma tracheiphila* – EU Annexe II/A2) seems to be confirmed in the Italian and French riviera.

- As reported in EPPO RS 95/228, *Xanthomonas axonopodis* pv. *citri* (EPPO A1 quarantine pest) has been found again in Florida (US). In addition to this finding, American scientists have observed an interaction between citrus canker and *Phyllocnistis citrella* (Gottwald & Graham, 1997). The citrus leaf miner can carry the bacterium on its body, and as it mines the leaves, numerous bacterial lesions develop along these mines.

Source: Bové, J.M. (1995) Virus and virus-like diseases of citrus in the Near East region. FAO, Rome, 518 pp.

Bové, J.M.; Garnier, M. (1997) Major diseases and pathogens of citrus in the Mediterranean and Western Asia: today and tomorrow.
Proceedings of the 10th Congress of the Mediterranean Phytopathological Union, 1997-06-01/05, Montpellier (FR), 1-10.

Garnsey, S.M.; Permar, T.A.; Cambra, M.; Henderson, C.T. (1993) Direct tissue blot immunoassay (DTBIA) for detection of citrus tristeza virus (CTV). p 39-50.
***In*: Moreno, P.; de Graça, J.V.; Timmer, L.W. (Eds) Proceedings of the 12th Conference of the International Organization of Citrus Virology.**

Gottwald, T.R.; Graham, J.H. (1997) An epidemiological analysis of the spread of citrus canker in Urban Miami, Florida, and synergistic interaction with the Asian citrus leaf miner.
***In:* Abstracts of the 5th International Congress of Citrus Nurserymen, Montpellier (FR), 1997-03-05-08.**

Additional key words: publication, new records, detailed records

Computer codes: CIRCTE, CSGXXX, CSRSXX, CSTXXX, NEOAHA, SPIRCI, TOXOCI, TRIZER, AE, CY, EG, ET, IN, IQ, IR, OM, SA, SD, SO

97/116 Middle European Meeting 96 on Plum Pox

The Middle European Meeting 96 on Plum Pox took place in Budapest, in 1996-10-02/04. Many papers and posters were presented during this meeting on various aspects, including detection methods, epidemiology, disease control, transgenic plants, plant breeding etc. The EPPO Secretariat was not able to attend the meeting, but has tried to extract some points of interest.

- In Slovakia, it was observed that walnut trees (*Juglans regia*) growing near plum orchards infected by plum pox potyvirus (PPV - EPPO A2 quarantine pest) were presenting similar virus symptoms. ELISA tests and inoculation to herbaceous indicators gave positive results. So far, walnut has never been reported as a host for PPV. Further work is continuing to verify this record (Baumgartnerová, 1996).

- In Hungary, serological tests (ELISA) were carried out on the possible presence of plant viruses in natural waters, in 1994 and 1995. Plum pox potyvirus was detected in some samples. In 1996, further tests were done in rivers and lakes, and again PPV was found (after ELISA and biological tests). This rather surprising finding raises many questions on the possible consequences on the virus epidemiology (Pocsai & Horváth, 1996).

- Characterization studies were carried out in Czech Republic. Results showed that isolates from plum and apricot were found similar to PPV-M strains (Marcus serotype). (Komínek et al., 1996).

Source: Baumgartnerová, H. (1996) Walnut – a new host of sharka virus ? p 30.

Komínek, P.; Bittóová, M.; Polák, J. (1996) To the differentiation of plum pox virus strains isolated in the Czech Republic. p 43.

Pocsai, E.; Horváth, J. (1996) Detection of plum pox potyvirus in Hungarian rivers and lakes. p 36.

Middle European Meeting 96 on Plum Pox. Budapest, 1996-10-02/04. Abstracts of papers and posters. Plant Health and Soil Conservation Station of the Ministry of Agriculture, Budapest.

Additional key words: new host plant, epidemiology **Computer codes:** PLPXXX

97/117 Print-capture PCR: a new detection method for plum pox potyvirus

A new detection method for plum pox potyvirus (PPV - EPPO A2 quarantine pest) has been developed in France and Spain. This new method called print-capture PCR (PC-PCR) allows rapid and sensitive detection of PPV from infected plants without the need of grinding samples. Prints are made on Whatman paper with fresh sections of leaves or stems. These prints can be processed immediately or stored at room temperature for one month. Squares of paper harbouring the prints are then processed by PCR (with a capture step). When compared with other PCR methods, the PC-PCR showed a comparable sensitivity. The authors concluded that PC-PCR is a fast, sensitive and cheap method which should be very useful in routine testing programmes for PPV. In addition, they felt that it could be adapted for the detection of other viruses.

Source: Olmos, A.; Dasí, M.A.; Candresse, T.; Cambra, M. (1996) Print-capture PCR: a simple and highly sensitive method for the detection of plum pox virus (PPV) in plant tissues.
Nucleic Acids Research, 24(11), 2192-2193.

Additional key words: new detection method **Computer codes:** PLPXXX

97/118 Usefulness of *Prunus tomentosa* as an indicator for plum pox potyvirus

Prunus persica GF 305 is an efficient and widely used woody indicator for plum pox potyvirus (PPV - EPPO A2 quarantine pest). However, it cannot differentiate between the various serotypes (Marcus, Dideron, El-Amar). In some countries, the lack of seed supply has lead to the use of *P. persica* Siberian C, on which symptoms of PPV are less obvious. *Prunus tomentosa* is also known as a good indicator but has not been widely used. Experiments were carried out in USA on the comparative usefulness of those three indicators. The authors have found that *P. tomentosa* (a hybrid line produced by the WSU-Prosser Experiment Station, USA) was an excellent woody indicator, as it could differentiate PPV from other Prunus viruses (prunus necrotic ringspot ilarvirus, prune dwarf ilarvirus and sour cherry green ring mottle virus) and also between PPV-M and PPV-D (all PPV strains caused chlorotic symptoms but only PPV-M strains developed extensive necrosis). As not all *P. tomentosa* plants become infected after graft-inoculation (because of the uneven distribution of PPV in *Prunus*), the authors recommended that at least 5 five replicates should be used in testing programmes.

Source: Damsteegt, V.D.; Waterworth, H.E.; Mink, G.I.; Howell, W.E.; Levy, L. (1997) *Prunus tomentosa* as a diagnostic host for detection of plum pox virus and other *Prunus* viruses.
Plant Disease, 81(4), 329-332.

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

97/119 Further spread of *Claviceps africana* in the Americas

The ergot disease of sorghum was initially restricted to Asia and Africa but recently spread to other continents: the Americas and Oceania (Australia) (see EPPO RS 97/031, 97/073). In the Americas, *Claviceps africana* was first found in Brazil in mid-1995, by 1996 it was also found in Argentina, Bolivia, Colombia, Venezuela*. By mid-February 1997, the disease spread to Honduras*, Dominican Republic*, Jamaica*, Puerto Rico* and Mexico*. In March 1997, *C. africana* was found for the first time in Texas, USA*. The fungus was found on cultivated sorghum and also on *Sorghum halepense*. Cultivated and wild sorghum species are susceptible to *C. africana* and it is likely that other grass plants can be hosts. Under epidemic conditions, near Tampico (Mexico), low infections were observed on pearl millet (*Pennisetum glaucum*), but the development of the pathogen appeared limited. Means of entry of *C. africana* into the Americas is unknown, but the pathogen has the potential for

dissemination by sorghum seed contaminated with sclerotia or encrusted by dried honeydew that contain viable macroconida.

* New records

Source: Anonymous (1997) Rapid spread of ergot of sorghum monitored in several fronts.
Phytopathology News, 31(4), p 59.

Odvody, G. (1997) Ergot of sorghum reported in U.S.
Phytopathology News, 31(5), p 75.

Additional key words: new records **Computer codes:** SPHLSO, DO, HN, JM, MX, PR, US, VE

97/120 Details on the situation of *Tilletia indica* in India

By browsing through the literature, the distribution of *Tilletia indica* (EPPO A1 quarantine pest) in Indian States appears as the following:

India: Bihar*, Delhi*, Gujarat, Haryana*, Himachal Pradesh*, Jammu and Kashmir, Madhya Pradesh*, Punjab, Rajasthan*, Uttar Pradesh*, West Bengal*.

* New detailed records

Source: Singh, D.V.; Srivastava, K.D.; Joshi, L.M. (1985) Present status of Karnal bunt of wheat in relation to its distribution and varietal susceptibility.
Indian Phytopathology, 38(3), 507-515. (CABI abstract)

Additional key words: detailed records **Computer codes:** NEOVIN, IN

97/121 Some details on tomato spotted wilt tospovirus in Romania

Tomato spotted wilt tospovirus (potential EPPO A2 quarantine pest) was recorded for the first time in Romania in 1991. It seems probable that it was introduced with its vector *Frankliniella occidentalis* (EPPO A2 quarantine pest), as the presence of this pest was recorded approximately at the same time. Damage on tomatoes were observed near Arad and Popesti. In addition to tomatoes this virus severely attacks *Capsicum*, and to a lesser extent glasshouse aubergines. Studies have shown that in Romania, *F. occidentalis* can survive and reproduce on glasshouse crops in winter, and then migrate to the fields in spring where conditions are favourable to its reproduction until late autumn.

Source: Pop, I.; Horgas, A. (1996) Tomato spotted wilt virus and its control. **Probleme de Protectia Plantelor, 24(1), 19-24.**

Additional key words: detailed record **Computer codes:** TMSWXX, RO

97/122 Studies on various strains of *Erwinia amylovora*

Studies were carried out in France and Germany on 127 strains of *Erwinia amylovora* (EPPO 2 quarantine pest) isolated from different hosts (fruit trees and ornamentals) and from various origins (Austria, Belgium, Bulgaria, Canada, Denmark, France, Germany, Greece, Ireland, Israel, Netherlands, New Zealand, Poland, Sweden, Switzerland, Syria, Turkey, UK, USA). By using PCR and restriction enzymes, some variability between strains could be observed, although *E. amylovora* has so far been considered as a rather homogeneous species. Strains could be separated into 3 groups according to the length of the DNA products. Most of the strains were included into 2 groups, and no relations could be found with hosts or origin. However, 13 strains could be clustered into a 3rd group. These strains were all isolated from recent foci in Austria and Southern Bavaria (Germany). The authors noted that this polymorphism could be used as an epidemiological marker to trace the spread of fireblight in Central Europe.

Source: Lecomte, P.; Manceau, C.; Paulin, J.P.; Keck, M. (1997) Identification by PCR analysis on plasmid pEA29 of isolates of *Erwinia amylovora* responsible of an outbreak in Central Europe. **European Journal of Plant Pathology, 103(1), 91-98.**

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

97/123 PCR detection of *Xanthomonas fragariae* and studies on its survival

1) A PCR technique (nested PCR) and specific primers have been developed in Florida (US) for the detection of *Xanthomonas fragariae* (EPPO A2 quarantine pest). With this technique, bacteria can be detected in either symptomatic or asymptomatic strawberry tissues. The authors felt that their technique is sufficiently sensitive to provide a useful tool for the detection of *X. fragariae* in asymptomatic plants in nurseries for certification purposes or in consignments moving in trade. This method was also used to study the survival of the bacterium in nurseries during summer in Florida. For this purpose, strawberry plants were inoculated with a rifampicin-resistant strain of *X. fragariae* and planted in the field. Bacteria were detected by PCR and by recovery onto growing media, at 2 weeks interval during 92 days after planting. Recovery of the rifampicin-marked strain from some samples indicated that the bacteria could remain viable throughout the summer. During summer, it was observed that the number of positive samples declined and then increased when more favourable conditions occurred (cooler temperatures). Authors stressed the importance of starting a new crop with plants free of *X. fragariae*. In addition, bacteria were also detected in daughter plants. Dissemination could be due either to systemic movement through vascular system of runners or to mechanical means.

2) Another new PCR method (rep-PCR) has been developed in California (US) to detect *Xanthomonas fragariae* (EPPO A2 quarantine pest). The aim was to provide a rapid and accurate identification of the pathogen, as pathogenicity testing is slow and ELISA may give some false positive results. The authors have found that the isolation of the bacterium could be improved by using a culture medium (PDM) similar to that used for *Xylella fastidiosa*. PCR primers which anneal to dispersed repetitive bacterial sequences (rep-PCR), genomic fingerprints of reference strains of *X. fragariae* were generated. These fingerprints where then used to identify *X. fragariae* in strawberry plants collected in Californian nurseries over the last 5 years. This method was found to be rapid (1 week) and accurate, as all field isolates which tested positive were also pathogenic to strawberry. The authors concluded that rep-PCR is a useful tool, especially for the production of pathogen-free strawberry planting material in nurseries.

Source: Roberts, P.D.; Jones, J.B.; Chandler, C.K.; Stall, R.E.; Berger, R.D. (1996) Survival of *Xanthomonas fragariae* on strawberry in summer nurseries in Florida detected by specific primers and nested polymerase chain reaction.
Plant Disease, 80(11), 1283-1288.

Opgenorth, D.C.; Smart, C.D.; Louws, F.J.; de Bruijn, F.J.; Kirkpatrick, B.C. (1996) Identification of *Xanthomonas fragariae* field isolates by rep-PCR genomic fingerprinting.
Plant Disease, 80(8), 868-873.

Additional key words: new detection methods **Computer codes:** XANTFR

97/124 Biology and control of *Dacus ciliatus*

As reported in EPPO RS 96/065, *Dacus ciliatus* (EPPO A1 quarantine pest) has been recently found on cucurbits in Israel, in a limited area in the Arava valley. The pest is under eradication. Laboratory studies were carried out to study its biology and control. It was found that all commercial cucurbits grown in Israel, as well as the wild *Citrullus colocynthis*, could host *D. ciliatus*. It was observed that females were able to lay eggs in tomato and *Capsicum* fruits, but the larval development could not be completed. In the laboratory, the life span of flies reared on honey, yeast extract and water was usually of 2-4 months (with a maximum of 6 months). At 28°C and 70 % RH, the development from egg to adult stage takes 12 to 17 days. The efficacy of several plant protection products was tested by exposing adult flies to treated cucumbers, and/or by direct contact. The most effective compounds were pyrethroids (cypermethrin, fenpropathrin and bifenfhrin). Organophosphates (monocrotophos, dimethoate, acephate), carbamate (methomyl) and insect growth regulator (azadirachtin) were found less effective.

Source: Yarom, I.; Svechkov, A.; Freidberg, A.; Horowitz, A.R.; Ishaaya, I. (1997) Biology and chemical control of *Dacus ciliatus*. Abstracts of papers presented at the 10th Conference of the Entomological Society of Israel.
Phytoparasitica, 25(2), p 165

Additional key words: biology, control **Computer codes:** DACUCI, IL

97/125 Occurrence of *Cameraria ohridella* in Croatia and Slovenia

The leaf miner, *Cameraria ohridella*, is a new pest of horse chestnut (*Aesculus hippocastanum*) which has recently been reported from several countries of Central Europe: Republic of Macedonia (1985), Austria (1989), north of Italy (1992), south Germany (1994), Hungary (1994) and Slovakia (1996) (see EPPO RS 96/211). A paper from Milevoj and Macek (1997) also mentions its presence in Croatia in 1995, and gives details on the first findings in Slovenia. In this country, *C. ohridella* was observed for the first time in Novo mesto in June 1995 and then spread in 1996 to other places (Oresje, Maribor, isolated outbreaks in Ljubljana).

Source: Milevoj, L.; Macek, J. (1997) Roßkastanien-Miniermotte (*Cameraria ohridella*) in Slowenien. **Nachrichtenblatt des Deutschen Pflanzenschutzdienstes, 49(1), 14-15**.

Additional key words: new records**.** **Computer codes:** LITHOD, HR, SI

97/126 Training course for plant protection inspectors in May 1998

In United Kingdom, the Plant Health and Seed Inspectorate of the Ministry of Agriculture, Fisheries and Food will organize again a training course for plant protection inspectors in May 1998. It will be a ten days course and it is planned to hold it near the Gatwick Airport with two days in York at the Central Science Laboratory. Visits to import inspection points, plant passporting premises, monitoring sites and other premises of plant health significance will also be included. The course fee will be £2,200 per delegate (including all hotel meals and accommodation). Further information will be provide later.

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Source: **Plant Protection Service of UK, 1997-02.**

Additional key words: training course **Computer codes:** UK

97/127 EPPO report on selected intercepted consignments

The EPPO Secretariat has gathered the intercepted consignment reports for 1997 received since the previous report (EPPO RS 97/109) from the following countries: Belgium, France, Germany, Greece, Italy, Ireland, Israel, Morocco, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Switzerland, 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.

Correction: the EPPO Reporting Service 97/087 mentioned a consignment of ware potatoes from the Netherlands intercepted by Norway in December 1996 because of the presence of *Ralstonia solanacearum*. Both Plant Protection Services of Norway and Netherlands confirmed that this consignment was in fact intercepted because of the prohibition to import Dutch potatoes into Norway (prohibition established since May 1996) and not because of the actual presence of brown rot. Norway declares that no consignment of potatoes from the Netherlands has been found infected by *R. solanacearum* during 1996.

Pest	Consignment	Type of commodity	Country of origin	Country of destination	nb
Agromyzidae	*Dendranthema*	Cuttings	Costa Rica	Netherlands	1
	Dendranthema	Cuttings	Kenya	Netherlands	3
Aphids	*Vriesea*	Plants for planting	Netherlands	Israel	1
Armoured scales	*Dracaena*	Plants for planting	Netherlands	Israel	1
Bemisia afer	*Eucalyptus*	Cuttings	Congo	United Kingdom	1
Bemisia tabaci	*Anthurium scherzerianum*	Plants for planting	Netherlands	Poland	1
	Euphorbia pulcherrima	Pot plants	Italy	Slovenia	2
	Eustoma	Cut flowers	Israel	Germany	1
	Hypericum	Cut flowers	Israel	France	1
	Manihot esculenta	Vegetables	Cameroon	France	1
	Manihot esculenta	Vegetables	Ghana	United Kingdom	1
	Nerium oleander	Pot plants	Israel	Netherlands	1
	Salvia officinalis	Cuttings	Israel	United Kingdom	1
	Solidago	Cut flowers	Israel	United Kingdom	1
	Solidago	Cut flowers	Zimbabwe	France	1

Pest	Consignment	Type of commodity	Country of origin	Country of destination	nb
Cacoecimorpha pronubana	Ornamentals	Plants for planting	Italy	Slovenia	1
Chrysodeixis sp.	*Asteriscus maritimus*	Cuttings	Israel	United Kingdom	1
	Tibouchina	Cuttings	Australia	United Kingdom	1
Cochliobolus carbonum	*Zea mays*	Seeds	USA	Poland	1
Ferrisia virgata	*Codiaeum*	Cuttings	Togo	United Kingdom	1
Guignardia sp.	*Tibouchina*	Cuttings	Australia	United Kingdom	1
Helicoverpa armigera	*Dianthus*	Cut flowers	Israel	Netherlands	4
	Pelargonium	Cuttings	Spain	Norway	1
	Phaseolus vulgaris	Vegetables	Egypt	United Kingdom	1
	Phaseolus vulgaris	Vegetables	Morocco	Netherlands	1
Leptinotarsa decemlineata	*Petroselinum crispum*	Vegetables	Italy	United Kingdom	3
Liriomyza huidobrensis	*Apium graveolens*	Vegetables	Israel	United Kingdom	1
	Apium graveolens	Vegetables	Spain	United Kingdom	1
	Aster	Cut flowers	Israel	United Kingdom	1
	Aster	Cut flowers	Netherlands	United Kingdom	2
	Dendranthema	Cut flowers	Netherlands	Ireland	5
	Gypsophila	Cut flowers	Israel	Ireland	3
	Gypsophila	Cut flowers	Israel	United Kingdom	1
	Gypsophila	Cut flowers	Netherlands	Ireland	1
	Gypsophila	Cut flowers	Netherlands	United Kingdom	3
	Gypsophila	Cut flowers	Spain	United Kingdom	1
	Pisum sativum	Vegetables	Guatemala	United Kingdom	1
	Solidago	Cut flowers	Netherlands	United Kingdom	1
Liriomyza sativae	*Ocimum basilicum*	Vegetables	Thailand	France	9
	Ocimum basilicum	Vegetables	Vietnam*	France	1
***Liriomyza* sp.**	*Apium graveolens*	Vegetables	Spain	United Kingdom	1
	Dianthus barbatus	Cut flowers	Israel	France	1
	Dianthus barbatus	Cut flowers	Israel	Germany	1
	Eustoma	Cut flowers	Israel	Germany	8
	Felicia variegata	Plants for planting	Portugal	United Kingdom	1
	Gypsophila	Cut flowers	Israel	France	4
	Gypsophila	Cut flowers	Spain	United Kingdom	1
	Ocimum basilicum	Vegetables	Vietnam	France	4
	Tagetes	Cut flowers	Italy	United Kingdom	1
Liriomyza trifolii	*Aster*	Cut flowers	Israel	United Kingdom	1
	Dendranthema	Cut flowers	Netherlands	Ireland	1
	Gypsophila	Cut flowers	Spain	United Kingdom	2
	Solidaster	Cut flowers	Netherlands	United Kingdom	1
***Meloidogyne* sp.**	*Rosa*	Plants for planting	Denmark	Norway	2
Oryzaephilus surinamensis	*Hordeum vulgare*	Stored products	Croatia	Slovenia	1

Pest	Consignment	Type of commodity	Country of origin	Country of destination	nb
Pentalonia nigronervosa	*Musa*	Cuttings	USA	United Kingdom	1
***Phoma* sp.**	*Cyclamen*	Plants for planting	Israel	United Kingdom	1
Potato S carlavirus	*Solanum tuberosum*	Seed potatoes	Belarus	Netherlands	1
Ralstonia solanacearum	*Solanum tuberosum*	Ware potatoes	Egypt	Germany	3
	Solanum tuberosum	Ware potatoes	Egypt	Greece	2
	Solanum tuberosum	Ware potatoes	Egypt	United Kingdom	2
Rot (unknown)	*Anigosanthos*	Plants for planting	Australia	Israel	1
***Sitophilus* sp.**	*Hordeum vulgare*	Stored products	Hungary	Slovenia	4
Spodoptera litura	*Oncidium*	Cut flowers	Thailand	Netherlands	1
***Spodoptera* sp.**	*Plectranthus*	Cuttings	Israel	United Kingdom	1
Thripidae	*Dendrobium*	Cut flowers	Thailand	United Kingdom	1
Thrips palmi	*Dendrobium*	Cut flowers	Thailand	Italy	24
	Dendrobium	Cut flowers	Thailand	Netherlands	2
	Dendrobium	Cut flowers	Thailand	United Kingdom	1
	Momordica charantia	Vegetables	Dominican Rep.	France	1
	Orchidaceae	Cut flowers	Thailand	Netherlands	3
	Orchidaceae	Cut flowers	Thailand	Spain	2
	Solanum melongena	Vegetables	Thailand	France	1
Thysanoplusia orichalcea	*Dianthus*	Cut flowers	Kenya	Netherlands	1
Tilletia indica	*Triticum aestivum*	Stored products	Mexico	Morocco	1
Tomato spotted wilt tospovirus	*Impatiens*	Cuttings	Israel	Germany	1
Tribolium sp.	*Avena sativa*	Stored products	Hungary	Slovenia	1

- **Fruit flies**

Pest	Consignment	Country of origin	Country of destination	nb
***Ceratitis* sp.**	*Mangifera indica*	Kenya	France	1
Ceratitis capitata	*Citrus reticulata*	Croatia	Slovenia	3
	Citrus reticulata	Italy	Slovenia	19
	Citrus sinensis	Italy	Slovenia	2
	Citrus	Italy	Slovenia	1
	Prunus armeniaca	Italy	Slovenia	1

- **Bonsais**

4 consignements of various bonsais plants (unspecified species) from China have been intercepted by Germany and United Kingdom because of the presence of the following nematodes: *Helicotylenchus dihystera*, *Helicotylenchus* sp., *Tylenchorhynchus leviterminalis*, *Tylenchorhynchus* sp. One consignement of bonsais plants (*Punica granatum*) from Israel has been intercepted by Germany because of the presence of *Bemisia tabaci*.

Source: **EPPO Secretariat, 1997-06.**
Plant Protection Service of Norway, 1997-05
Plant Protection Service of the Netherlands, 1997-05.

97/128 New EPPO Electronic Documentation Service

As announced in EPPO RS 97/124, the EPPO Secretariat is currently improving its electronic documentation service. A new system is now in place and completely replaces the 'old' mail-server (mail-server@eppo.fr) which is no longer accessible. The new system has the following address: **eppo_docs@eppo.fr**

How to access the new EPPO Electronic Documentation Service

1) Register as a user

In the new system, the EPPO files have been separated into five directories according to the topic concerned:

- PPPstandards (EPPO standards on plant protection products)
- PQstandards (EPPO standards on plant quarantine)
- Regulations (EPPO summaries of phytosanitary regulations and original texts)
- Reporting (EPPO Reporting Service)
- Publications (EPPO publications, e.g. data sheets)

To receive the EPPO files, you have first to register as a user of the directory(ies) you are interested in (as many as you want), by sending the following message to eppo_docs@eppo.fr: Join (name of the directory)

Example:

Message

To:	**eppo_docs@eppo.fr**
Subject:	
	Join Reporting

You will receive in return two messages. One is a transaction report which tells you that you successfully joined the chosen directory and the second gives full explanation on how to obtain the contents of the directory and the files it contains.

2) Obtain the contents

To obtain the contents of a given directory, you simply have to send the following message to eppo_docs@eppo.fr: Dir (name of the directory)

Example:

Message

To:	**eppo_docs@eppo.fr**
Subject:	
	Dir Reporting

In return, you will receive two messages. One is a transaction report (telling you that the command was completed) and the second will be untitled 'directory for the list Reporting', and will list all the file names.

3) Obtain the files

To obtain a file of a given directory, you simply have to send the following message to eppo_docs@eppo.fr: Get (name of the directory) (name of the file).

Example:

Message

To:	**eppo_docs@eppo.fr**
Subject:	
	Get Reporting rse-9706.doc

Again, you will receive two messages. One is a transaction report (telling you that the command was completed) and the second will contain the requested file as an attachment.

Current contents

At present the current contents are the following, but the EPPO Secretariat is planning to expand the number of documents. All files have been stored under a WORD6 format.

- **PPPstandards**

Nothing available at present. The EPPO guidelines on efficacy testing will soon be included.

- **PQstandards**

EPPO Specific Quarantine Requirements (English and French). File names: sqe-doc.exe, sqf-doc.exe.

- **Regulations**

EPPO Summaries of phytosanitary regulations

- Bulgaria (English): File name: sue-bg.exe
- Cyprus (English). File name; sue-cy.exe
- Estonia (English). File name: sue-ee.exe
- EU Member States (in 3 parts, in English and French). File names: sue-eua.exe, sue-eub.exe, sue-euc.exe, suf-eua.exe, suf-eub.exe, suf-euc.exe
- Guernsey (English).File name: sue-gv.exe
- Hungary (English). File name : sue-hu.exe
- Israel (English). File name: sue-il.exe
- Latvia (English). File name: sue-lv.exe
- Malta (English). File name: sue-mt.exe

- Morocco (English). File name: sue-ma.exe
- Norway (English). File name : sue-no.exe
- Poland (English). File name: sue-pl.exe
- Romania (English). File name: sue-ro.exe
- Russia (English and French). File names: sue-ru.exe, suf-ru.exe
- Slovakia (English). File name: sue-sk.exe
- Slovenia (English). File name : sue-si.exe
- Tunisia (English). File name: sue-tn.exe
- Turkey (English). File name: sue-tr.exe
- Ukraine (English). File name: sue-ua.exe

Texts of phytosanitary regulations

- Croatia (English). File name: pre-hr.exe
- Cyprus (English). File name: pre-cy.exe
- Estonia (English). File name: pre-ee.exe
- EU Member States (in 3 parts, in English and French). File names: pre-eua.exe, pre-eub.exe, pre-euc.exe, prf-eua.exe, prf-eub.exe, prf-euc.exe
- Israel (English). File name: pre-il.exe
- Malta (English). File name: pre-mt.exe
- Morocco (French). File name: prf-ma.exe
- Norway (English). File name: pre-no.exe
- Russia (English). File name: pre-ru.exe
- Slovakia (English). File name: pre-sk.exe
- Slovenia (English). File name: pre-si.exe
- Turkey (English). File name: pre-tr.exe
- Turkey (English). File name: pre-tr2.exe
- Ukraine (French). File name: prf-ua.exe

- **Reporting**

EPPO Reporting Service for 1996 (English and French). File names: rse-9601.doc, rse-9602.doc, rse-9603.doc, rse-9604.doc, rse-9605.doc, rse-9606.doc, rse-9607.doc, rse-9608.doc, rse-9609.doc, rse-9610.doc, rse-9611.doc, rse-12.exe, rse-1996.exe (single file which contains all articles published in 1996). rsf-9601.doc, rsf-9602.doc, rsf-9603.doc, rsf-9604.doc, rsf-9605.doc, rsf-9606.doc, rsf-9607.doc, rsf-9608.doc, rsf-9609.doc, rsf-9610.doc, rsf-9611.doc, rsf-9612.exe, rsf-1996.exe

EPPO Reporting service for 1997 (January to June). File names: rse-9701.doc, rse-97-02.doc, rse-9703.doc, rse-9704.doc, rse9705.doc, rs9705.doc, rsf-9701.doc, rsf-9702.doc, rsf-9703.doc, rsf-9704.doc, rsf-9705.doc, rsf-9706.doc.

EPPO *Reporting Service*

- **Publications**

Data sheets in English and French (first edition of Quarantine Pests for Europe) : dse-doc.exe and dsf-doc.exe.
In the near future, these will be replaced by data sheets of the second edition.

Please let the EPPO Secretariat know about your success and/or difficulties in connecting to this new information system.

Source: EPPO Secretariat, 1997-06.