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99/115 Surveys on *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* in Lithuania

Since the beginning of 1998, surveys have been carried out in Lithuania on *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* (both EPPO A2 quarantine pests). Potatoes were tested by IFAS and ELISA in 1998 and additionally in test plants in 1999. A system of control measures has been put in place for both these pathogens, in conformity with the requirements of the European Union.

- ***Clavibacter michiganensis* subsp. *sepedonicus***

In 1998, 162 samples of Lithuanian seed potatoes were tested by IFAS and ELISA. As a result, 6 cultivars from 3 regions in Lithuania were found contaminated by ring rot. These seed potatoes were derived from seed potatoes produced in Lithuania (cv. Nida) or imported from other countries (cvs Sante and Romano from the Netherlands, cv. Planta from Germany, cv. Dietskoleskii from Russia). The tests were done on seed potatoes in the warehouse after harvest.

In 1999 (up to 24th May), 114 samples have been tested (IFAS, ELISA, biological testing): 88 samples of seed potatoes (1880 t) and 26 samples of ware potatoes (578 t). 2 samples of seed potatoes were found contaminated, as well as 2 samples of ware potatoes (from Lithuania and Poland).

In all farms where contaminated potatoes had been found, phytosanitary measures have been applied.

- ***Ralstonia solanacearum***

Tests applied to the samples as above gave in all cases negative results.

Source: **NPPO of Lithuania, 1999-06.**

Additional key words: survey, detailed record, absence

Computer codes: CORBIN, PSDMSO, LT

99/116 Survey on *Clavibacter michiganensis* subsp. *sepedonicus* in Germany (1998 harvest)

The EPPO Reporting Service 99/054 presented results of the surveys on *Clavibacter michiganensis* subsp. *sepedonicus* carried out in Germany for the 1997 potato harvest and part of the 1998 harvest. The NPPO of Germany provided more information on the survey concerning the 1998 potato harvest and also noted that in EPPO RS 99/054 the sentence 'The number of infested lots found in 1997 was twice as high as in 1996', should be replaced by 'The amount of samples tested during that period was twice as high as in 1996'.

Official tests (IF, in some laboratories IF and PCR) were done for latent infections in seed and ware potatoes. In all German Länder, all prebasic and basic material is tested. In the main seed potato production areas, all certified material is tested (Bayern, Mecklenburg-Vorpommern, Niedersachsen, Schleswig-Holstein), and in other Länder 80-100% certified material is tested.
1998 harvest: 16.551 samples were tested (251 gene-collection and breeding material, 11.109 seed potato production, 992 seed potato trade, 4.199 ware potatoes). In addition, visual inspections were also carried out. 15 positive cases were found on seed potatoes and 38 positive cases on ware potatoes. In comparison to the 1997 survey, there is a significant decrease concerning seed potatoes and a slight improvement for ware potatoes. Phytosanitary measures are being applied, aiming at the eradication of the disease.

Source: **NPPO of Germany, 1999-07.**

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

99/117 Result of the 1998 potato survey in Ireland

In Ireland, surveys on *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* (both EPPO A2 quarantine pests) were carried out in 1998. 236 samples of seed potatoes and 215 samples of ware potatoes were tested in the laboratory for each bacterium. More than 500 visual checks were also done on seed potato samples. All results were negative.

Source: **NPPO of Ireland, 1999-06.**

Additional key words: absence **Computer codes:** CORBSE, PSDMSO, IE

99/118 First find of *Colletotrichum acutatum* in Slovenia

The NPPO of Slovenia has recently informed the EPPO Secretariat that *Colletotrichum acutatum* (EU Annex II/A2) has been found for the first time in 1998. First symptoms were observed in a strawberry field near Krsko (*Fragaria ananassa* cvs Elsanta, Miss, Marmolada). The fungus was isolated on potato dextrose agar (PDA) and identified by cultural and morphological characters by the Agricultural Institute of Slovenia in autumn 1998. Identification was confirmed by ELISA at the Central Science laboratory, UK. In order to prevent any further spread of the disease, the NPPO of Slovenia has initiated a survey on strawberry plants in the field and on imported plants for planting.

Source: **NPPO of Slovenia, 1999-06.**

Additional key words: first record **Computer codes:** COLLAC, SI

99/119 First report of *Rhynchophorus ferrugineus* in Israel

The NPPO of Israel has informed the EPPO Secretariat of the first finding of *Rhynchophorus ferrugineus* in Israel. As the red palm weevil has been introduced into the Mediterranean region during the last few years (see EPPO RS 96/096), the Plant Protection and Inspection Services of Israel placed specific pheromone traps along borders, especially at entry points for commercial consignments and travellers, and also near date palm plantations. In June 1999, few adult weevils were caught in a date palm plantation near Jericho and very close to the Jordan River (border with Jordan). Following preliminary investigations with the Palestinian Authority and Jordan, it appeared that the pest was present in Jericho and in the Jordanian palm plantation across the River. At present, the three parties concerned are putting into place coordinated phytosanitary measures against *R. ferrugineus*, including: 1) frequent pest surveys; 2) increase of trap density at detection sites; 3) quarantine of the affected areas and prevention of pest spread (e.g. by regulating movement of host material); 4) establishment of an active pest control strategy in consultation with experienced professionals.

Source: **NPPO of Israel, 1999-07.**

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

99/120 *Echinothrips americanus* found in Emilia -Romagna (IT)

During spring 1999, high infestations of *Echinothrips americanus* were observed on *Impatiens* plants grown in glasshouses near Bologna, Emilia-Romagna, Italy. These plants had been imported from the Caribbean region. Infestations have also been observed on *Senecio cruentus* and beet grown under glasshouses. The authors expressed concerns about the possible spread of *E. americanus* in Italy particularly for glasshouse crops and noted that studies will be carried out on biological control using predator thrips (*Franklinothrips* spp.) and predator mites. This is the first report of *E. americanus* in Emilia -Romagna.

Source: Marullo, R.; Pollini, A. (1999) *Echinothrips americanus*, a new pest of the Italian greenhouses.
Informatore fitopatologico, no. 6, 61-64.

Additional key words: new detailed record **Computer codes:** ECHTAM, IT

99/121 Is *Cacoecimorpha pronubana* established in Southern Germany ?

Up till now *Cacoecimorpha pronubana* (EPPO A2 quarantine pest) was not considered as established in Germany, although it had been intercepted several times in glasshouses. During the last three years, the author noted that he has received increasing numbers of *C. pronubana* larvae and adults for identification from different parts of Germany, associated with reports of severe damage on glasshouse crops. There is now some evidence that *C. pronubana* is probably established in Southern Germany. In a small garden centre located in Lörrach at 600 m altitude (Baden-Württemberg) producing ornamentals, *C. pronubana* has been observed for several years. It is thought that the pest was introduced into this garden centre in 1996 with potted plants (eucalyptus, oleander) from Italy. In 1997, damage was observed in a plastic house of *Bergenia*. Despite numerous chemical treatments, the insect could not be controlled. Even after cold winter conditions (plastic house partly open and not heated), *C. pronubana* was found again in spring 1998 causing damage to *Bergenia* plants.

Source: Billen, W. (1999) Ist der Mittelmeernelkenwickler (*Cacoecimorpha pronubana* Hübner) (Lepidoptera: Tortricidae) im Begriff, in Süddeutschland heimisch zu werden ?
Nachrichtenblatt des Deutschen Pflanzenschutzdienstes, 51(5), 127-128.

Additional key words: detailed record **Computer codes:** TORTPR, DE

99/122 Distribution of *Cameraria ohridella* in Italy

In 1997, investigations were carried out in north-eastern Italy to determine the distribution and infestation levels of the horse chestnut leafminer *Cameraria ohridella*. In Italy, the presence of *C. ohridella* was first reported in 1992, in Dobbiaco (=Toblach, province of Bolzano, Trentino Alto-Adige; see EPPO RS 96/211). It was later found in several places in Friuli-Venezia Giulia and in Veneto. It was observed that the pest is widespread in all three regions with a discontinuous distribution and various infestation levels. It is felt that the introduction and spread of *C. ohridella* is essentially due to passive dispersal by vehicles coming from infested areas, and then to natural spread. It is expected that the leafminer will continue to spread to other regions in Italy. In order to protect horse chestnuts in the urban environment, the authors felt that plant protection authorities will have to carry out careful monitoring of insect pest populations, and that control measures may have to be applied (including insecticide treatments and complete removal of fallen leaves in autumn).

Source: Pavan, F.; Zandigiacomo, P. (1998) [Distribution of *Cameraria ohridella* Deschka and Dimi≠ (Lepidoptera Gracillariidae) in Italy and infestation levels on horse chestnut]
Informatore Fitopatologico, no. 11, 57-60.

Additional key words: detailed record **Computer codes:** LITHOD, IT

99/123 First report of impatiens necrotic spot tospovirus in Israel

In January 1999, anemone plants (*Anemone coronaria*) imported from Europe and grown in open fields near Jerusalem, Israel, developed foliar ringspots and necrosis. A few weeks later, anemone plants in the surrounding area were also affected and seriously damaged. The presence of impatiens necrotic spot tospovirus (EPPO A2 quarantine pest) was detected in these diseased plants (ELISA, inoculations to indicator plants, electron microscopy). This is the first report of impatiens necrotic spot tospovirus in Israel.

Source: Gera, A.; Kritzman, A.; cohen, J.; Raccah, B. (1999) First report of impatiens necrotic spot tospovirus (INSV) in Israel.
Plant Disease, 83(6), p 587.

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

99/124 *Radopholus similis* found on *Anthurium* in Israel

In June 1999, a sample of *Anthurium* plants was collected by the Palestinian authorities in one glasshouse (nursery) in Jericho and tested by the laboratory of the Plant Protection and Inspection Services of Israel. The presence of *Radopholus similis* (EPPO A2 quarantine pest) was detected. Phytosanitary measures were immediately taken. All *Anthurium* plants which were grown in this nursery on raised beds were destroyed, beds and growing medium were fumigated, and the glasshouse was completely desinfected. Surveys were carried out around the nursery, including nearby banana plantations and no infestation was found. Surveys will continue at least for one more year. These *Anthurium* plants had been imported from the Netherlands. Phytosanitary controls at import for *Anthurium* and other susceptible ornamental plants will be intensified.

Source: **NPPO of Israel, 1999-07.**

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

99/125 *Globodera rostochiensis* absent from Costa Rica

The EPPO Secretariat has recently been informed by the NPPO of Costa Rica that *Globodera rostochiensis* (EPPO A2 quarantine pest) is absent from this country.
The record *G. rostochiensis* in Costa Rica dates back to 1973 when it was first reported in potato fields by an Costarican agronomist and its identification was confirmed in the Netherlands. This first survey had been initiated by a warning notice concerning the risk of presence of *G. rostochiensis* in the neighbouring country Panama. During the period 1975-1977, more surveys were done by the same agronomist but the nematode could not be found in any sample taken from the same area. Inoculation of potato plants with cysts recovered during the first finding, under greenhouse conditions, in sterilized and unsterilized soils, demonstrated that this nematode did not affect the plants, did not produce larvae nor cysts. Successive surveys were then carried out in potato fields in many parts of the country including neighbouring regions to Panama and places where the nematode had first been found. These surveys were done in 1981, 1984-85, 1988, 1989, 1995-1997, 1998 by the Ministry of Agriculture in collaboration with various partners (Potato International Centre (CIP), Agricultural Research Institute of Panama, Regional Cooperative Potato Programme (PRECODEPA), OIRSA). All these successive surveys failed to detect *G. rostochiensis*. In conclusion, *G. rostochiensis* should be considered as "Absent: pest no longer present" in Costa Rica.

Source: **NPPO of Costa Rica, 1999-06**

Additional key words: absence **Computer codes:** HETDRO, CR

99/126 First report of *Heterodera glycines* on soybean in Puerto Rico

Heterodera glycines (EPPO A1 quarantine pest) is reported for the first time from Puerto Rico. The nematode was found in February 1998, in a winter nursery of soybean (*Glycine max*) at the USDA's Isabela farm. Soybean has been grown in this field for 25 consecutive years (one crop each year with a summer fallow period between winter nursery seasons). However, no cysts were found when soil and roots were randomly sampled from other soybean fields in Puerto Rico (Isabela, Salinas, Lajas, Juana Diaz), as well as in neighbouring fields. Sorghum was planted in the infested field in summer 1998 as a rotation, and soybean was planted again in 1998-1999 in a winter nursery.

Source: Smith, J.R.; Chavarria-Carvajal, J.A. (1999) First report of soybean cyst nematode *Heterodera glycines* on soybean in Puerto Rico.
Plant Disease, 83(6), p 591.

Additional key words: new record **Computer codes:** HETDGL, PR

99/127 Wheat China mosaic furovirus: a new virus of wheat in China

In Shandong province, China, a soil-borne disease of wheat has been observed during the last 20 years. The disease is characterized by light chlorotic streaking on the youngest leaves and bright yellow chlorotic streaking on older leaves or purple chlorotic stripes on some local wheat cultivars. Infected plants are severely stunted, wilt and later die. Yield losses of 10-30% are commonly observed, and can reach up to 70% in some cases. Studies have showed that the disease is caused by wheat yellow mosaic bymovirus and/or a rod-shaped virus. The disease is also associated with *Polymyxa graminis* which is the presumed vector of both viruses. The rod-shape virus was described as wheat soil-borne mosaic furovirus on the basis of serological relationship. However, further characterization studies (particle morphology, serology, analysis of nucleotide sequences) have shown that the rod-shaped virus is distinct from wheat soil-borne mosaic furovirus and is a new virus for which the name wheat China mosaic furovirus is proposed.

Source: Ye, R.; Zheng, T.; Chen, J.; Diao, A.; Adams, M.J.; Yu, S.; Antoniw, J.F. (1999) Characterization and partial sequence of a new furovirus of wheat in China.
Plant Pathology, 48(3), 379-387.

Additional key words: new pest **Computer codes:** CN

99/128 Characterization of iris yellow spot tospovirus

In the Netherlands, disease symptoms have occasionally been observed in *Iris hollandica* since 1992. Symptoms were characterized by chlorotic spots which later developed into yellow and necrotic spots. Depending on the iris cultivars, the percentage of infected plants ranged from 5 to 90 %. Serological comparisons and sequence determination demonstrated that the causal agent is a new and distinct tospovirus. Electron microscopy also revealed the presence of spherical particles (80 to 120 nm), characteristic of tospoviruses. The name iris yellow spot tospovirus has been proposed. The experimental host range is narrow, it includes *Nicotiana tabacum* and *Datura stramonium*. The natural host range could include other monocotyledons (e.g. onion, leek, lily) and it can be noted that this virus has been observed in Israel on field-grown onions (EPPO RS 98/092). Concerning thrips transmission, no transmission was obtained with *Frankliniella occidentalis* but *T. tabaci* is suspected as a vector (in diseased iris fields in the Netherlands and onion fields in Israel, *T. tabaci* infestations were observed).

In the north-east region of Brazil (S±o Francisco River basin) a tospovirus has emerged as a devastating virus on onion. It was at first designated as BR-10 (see EPPO RS 96/198) and was recently identified and characterized as a strain of iris yellow spot tospovirus. In Brazil, this tospovirus causes a disease known as 'sapeca', and affected onion plants show numerous eyelike spots on the leaves and flower stalks resulting in flower abortion. It is noted that the economic impact of iris yellow spot tospovirus in iris and onion is low in the Netherlands but this is not the case in Brazil on onion, as up to 100% loss has been observed in onion fields. Concerning thrips vectors, it has been shown in Brazil that only *Thrips tabaci* could transmit the disease, and that *Frankliniella schultzei* and *F. occidentalis* were not vectors.

Source: Cortês, I.; Livieratos, I.C.; Derks, A.; Peters, D.; Kormelink, R. (1998) Molecular and serological characterization of iris yellow spot virus, a new and distinct tospovirus species.
Phytopathology, 88(12), 1276-1282.

Nagata, T.; Almeida, A.C.L.; Resende, R. de O.; de Avila, A.C.; (1999) The identification of the vector species of iris yellow spot tospovirus occurring on onion in Brazil.
Plant Disease, 83(4), p 399.

Pozzer, L.; Bezerra, I.C.; Kormelink, R.; Prins, M.; Peters, D.; Resende, R. de O.; de Avila, A.C. (1999) Characterization of a tospovirus isolate of iris yellow spot virus associated with a disease in onion fields, in Brazil.
Plant Disease, 83(4), 345-350.

Additional key words: new pest **Computer codes:** IYSV, BR, IL, NL

99/129 In southern Spain: tomato yellow leaf curl begomovirus causes epidemics on tomatoes and a new disease on beans

As in June 1997 a severe outbreak of tomato yellow leaf curl begomovirus (TYLCV - EPPO A2 quarantine pest) was observed in the region of Almería, field surveys were then carried out in tomato crops in southern Spain. Results showed that this outbreak was caused by isolates belonging to TYLCV-Is. This type of isolate has now spread to all tomato-growing regions in southern Spain, although it had not previously been reported. TYLCV-Is coexists with TYLCV-Sr which has been present in Spain since 1992. In addition, unusual symptoms of leaf crumple were observed in September 1997 on common beans (*Phaseolus vulgaris*) grown under plastic near Almería and in the field near Málaga. These bean crops were also heavily infested by *Bemisia tabaci* (EPPO A2 quarantine pest). Symptomatic samples were tested and TYLCV-Is was isolated. The disease could be reproduced by infecting beans with cloned TYLCV-Is obtained from infested tomato plants. This is the first report of TYLCV causing a disease on beans in Spain.

Source: Navas-Castillo, J.; Sánchez-Campos, S.; Díaz, J.A.; Sáez-Alonso, E.; Moriones, E. (1999) Tomato yellow leaf curl virus-Is causes a novel disease of common bean and severe epidemics in tomato in Spain.
Plant Disease, 83(1), 29-36.

Additional key words: detailed record, new host plant **Computer codes:** TYLCVX, ES

99/130 Location of geminiviruses in *Bemisia tabaci* biotype B

Tomato mottle (EPPO A1 quarantine pest) and cabbage leaf curl geminiviruses were located in their vector *Bemisia tabaci* biotype B (EPPO A2 quarantine pest) by using a new technique (indirect immunofluorescent labelling with monoclonal and polyclonal antibodies in freshly dissected whiteflies). Both viruses were observed in the anterior region of the midgut and filter-chamber of adult whiteflies. Tomato mottle geminivirus was also detected in salivary glands. Further studies are needed to discover mechanisms by which geminiviruses enter whitefly cells, and to determine the path of movement through the insect body. In addition, the possible replication of viruses within *B. tabaci* is still unclear. However, the following scenario is proposed by the authors: 'the virus is ingested from plant tissue, up the food canal of the stylets, through the esophagus and foregut, into the filter-chamber and midgut where the virus must pass through these membranes into the hemolymph. The virus moves through the hemolymph until contacting the salivary gland membrane, here the virus must pass through the barrier of salivary gland membrane to finally move through to the salivary ducts and be salivated out through the salivary canal of the stylets, thus being injected into plant cells.'

Source: Hunter, W.B.; Hiebert, E.; Webb, S.E.; Tsai, J.H.; Polston, J.E. (1998) Location of geminiviruses in the whitefly *Bemisia tabaci* (Homoptera: Aleyrodidae).
Plant Disease, 82(10), 1147-1151.

Additional key words: epidemiology **Computer codes:** BEMITA, ToMoV

99/131 Solanaceous host plants of tomato spotted wilt tospovirus

Tomato spotted wilt tospovirus (TSWV - EPPO A2 quarantine pest) has a very wide host range. Studies were carried out in France on the solanaceous hosts of the virus (natural and artificial hosts). A probably non-exhaustive list of solanaceous hosts established from the literature already gave 103 plant species names (from 20 genera, including natural and experimental hosts).

Natural infections observed in southern France
Tomato: In France, TSWV was first observed in tomato fields in 1933. The virus was not observed for a long period but reappeared in 1987. Since then serious outbreaks leading to crop destruction occurred in Côte d'Azur, Provence, Languedoc-Roussillon, as well as in the overseas island of Réunion.
Capsicum: Natural infections have been observed since 1989, especially in Alpes-Maritimes, Pyrénées-Orientales, Provence and Rhône-Alpes.

Aubergine: TSWV was not detected in aubergine until 1993, but serious outbreaks have since been reported from field crops in Provence and Pyrénées-Orientales.
Tobacco: So far, TSWV infections on tobacco are very limited in France.
Weeds: samples of solanaceous weeds were collected near infested fields and TWSV was detected in *Solanum nigrum* and *S. dulcamara*.

Experimental hosts
Artificial inoculation studies made with numerous species of the genera: *Atropa*, *Datura*, *Capsicum*, *Hyoscyamus*, *Nicotiana*, *Petunia*, *Physalis*, *Saracha*, *Salpichroa*, contributed to increase the list of solanaceous hosts of TSWV (from the 103 previously listed species to 148).

Source: Gognalons, P.; Gebre-Selassie, K.; Marchoux, G. (1999) La gamme d'hôtes du TSWV continue à s'étendre.
Phytoma - La Défense des Végétaux, no. 512, 4751.

Additional key words: detailed record**,** host plants **Computer codes:** TMSWXX, FR

99/132 *Valeriana officinalis* is a host of tomato spotted wilt tospovirus

In Italy, *Valeriana officinalis* is grown for medicinal or ornamental purposes. During a survey on medicinal and aromatic plants, two field crops of *V. officinalis* in Emilia-Romagna and Liguria showed mosaic, vein clearing, leaf crinkle, chlorotic-necrotic rings and necrosis of veins and stems. Tomato spotted wilt tospovirus (EPPO A2 quarantine pest) was detected by ELISA, biological tests and electron microscopy in diseased plants. This is apparently the first report of tomato spotted wilt tospovirus on *Valeriana officinalis*.

Source: Bellardi, M.G.; Vicchi, V.; Roggero, P.; Dellavalle, G.; Lisa, V. (1999) [*Valeriana officinalis*, a new host of tomato spotted wilt tospovirus].
Informatore Fitopatologico, no. 3, 47-49.

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

99/133 Serological method to differentiate CTV isolates causing stem pitting in sweet orange

A serological method (indirect double sandwich ELISA) has been developed in Florida (US) to detect and differentiate isolates of citrus tristeza closterovirus (CTV - EPPO A2 quarantine pest) causing stem pitting in extracts of infected sweet orange plants (*Citrus sinensis*) from other CTV isolates.

Source: Nikolaeva, O.V.; Karasev, A.V.; Garnsey, S. M.; Lee, R.F. (1998) Serological differentiation of the citrus tristeza virus isolates causing stem pitting in sweet orange.
Plant Disease, 82(11), 1276-1280.

Additional key words: detection method **Computer codes:** CSTXXX