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96/001 *Burkholderia* (*Pseudomonas*) *solanacearum* found again in the Netherlands

Surveys have been carried out in the Netherlands and revealed the presence of *Burkholderia (Pseudomonas) solanacearum* (race 3) in potato lots. These results were officially confirmed in October 1995. So far, infected lots were found on 38 farms. This comprises approximately 200 hectares of affected farms (100 ha of seed potatoes and 100 ha of ware potatoes). Infected farms are found at several locations in the Netherlands. There are no connections with the 1993 findings of potato brown rot in the south-eastern part of the Netherlands (EPPO RS 93/070). Relationships between infected lots are mainly of a clonal type, although in some cases lots had been affected by contact.
Infected farms have been put under strict phytosanitary measures aiming at the elimination of the disease and prevention of further spread. At present, all lots of seed potatoes intended for trade originate from farms where the disease has not been found. In addition, samples are taken and tested to ascertain the absence of this pathogen. Testing capacity has been increased drastically to over 1,000 samples per day. Surveys on this disease are indeed continuing intensively in the Netherlands.

Source: **Dutch Plant Protection Service, 1995-11**.

Computer codes: PSDMSO, NL.

96/002 Situation of *Burkholderia* (*Pseudomonas*) *solanacearum* in the EPPO region

Burkholderia (*Pseudomonas*) *solanacearum* (EPPO A2 quarantine pest) in the last few years has been reported at a number of locations in northern Europe (e.g. RS 96/001), and is continuing to be so reported. The EPPO Secretariat has accordingly sent a questionnaire to all its member countries in order to clarify the situation of potato brown rot throughout the EPPO region. The replies are summarized here.

Austria: *B. solanacearum* did not occur in Austria in the past. Recently, IF-positive results were obtained for three samples and biological tests on tomatoes are being made. Further monitoring is being carried out.

Belgium: Prior to 1989, *B. 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. Since then, *B. solanacearum* has not been found in Belgium, 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. The official authorities consider that Belgium is now free from *B. solanacearum*.

Bulgaria: *B. 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 *B. solanacearum* has not been found in Bulgaria. Inspections carried out in 1994 and 1995 have not revealed the presence of the bacterium.

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

Cyprus: *B. 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 is now free from *B. solanacearum*. The last EPPO Distribution List for *B. solanacearum* (EPPO RS 94/227) which mentioned the disease as present has to be modified accordingly.

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

Denmark: *B. solanacearum* has not been found in Denmark in 1994 and 1995. This disease has never occurred in Denmark. A previous EPPO record refers to an interception on ornamental *Musa* only.

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

Finland: *B. solanacearum* has never been found in potatoes grown in Finland but has been intercepted on ware potatoes from Egypt.

Germany: *B. solanacearum* has never occurred in Germany in the past, and in particular it has not been found in 1994 or 1995.

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

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

Ireland: *B. 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, *B. solanacearum* has been found in *Curcuma* plants grown in glasshouses from bulbs imported from the Netherlands. Measures were immediately taken, including destruction of all infected bulbs and plants, and fumigation with formaldehyde.

Italy: Before 1995, this disease 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.

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

Latvia: *B. solanacearum* is not present in Latvia. Few reports were made in the past but have never been confirmed.

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

Netherlands: So far, *B. solanacearum* has been found in 38 farms and strict phytosanitary measures are being taken to prevent further spread. See EPPO RS 96/001.

Norway: *B. solanacearum* has never occurred in Norway.

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

Romania: An occurrence of *B. 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.

Slovak Republic: *B. solanacearum* has never occurred in Slovak Republic.

Slovenia: *B. solanacearum* has never occurred in Slovenia.

Sweden: An infestation was reported in 1976 (in the EPPO Bulletin 6(4), 199-207) and was later eradicated. Tests have been carried out on *Solanum dulcamara* in the streams of the earlier infested areas in 1994. None of the tested plants was infested. The official authorities consider that Sweden is free from *B. solanacearum*.

Switzerland: *B. solanacearum* is not present in Switzerland, and no symptoms have been seen during the recent period of outbreaks elsewhere in Europe.

Tunisia: *B. 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, *B. solanacearum* is not present.

United Kingdom: Only one isolated incidence of 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 has been discovered. Extensive surveys of both ware and seed crops have been conducted since this outbreak. No further infections in potato crops have been found. In the light of this outbreak, extensive surveying of watercourses in the country has been undertaken to determine whether infected weeds on river banks are acting as a reservoir for this organism. Apart from one isolated occurrence involving two infected plants which were removed, the organism is present only in the Thames river basin in infected *Solanum dulcamara* plants on the river banks. Consideration is being given to possible action related to these infected plants but in the meantime ware potato growers (no seed potatoes are grown in this area) have been advised on the dangers of irrigating from this infected water source. It may be noted that *B. solanacearum* has occasionally been intercepted on imported ware potatoes.

No replies have been received from: Albania, France, Greece, Luxembourg, Morocco, Portugal, Russia and Spain. According to the data in the EPPO PQR system, *B. solanacearum* has been reported in Greece, Morocco, Russia (not apparently on potato). It has occurred but was eradicated in Portugal. 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 *B. 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, 1995-12.

Computer codes: PSDMSO.

96/003 Decline diseases of *Prunus* in Europe are now considered as due to European stone fruit yellows phytoplasma

Decline diseases in apricot and Japanese plum which were first observed in France and Italy at the beginning of this century, were given the names apricot chlorotic leaf roll phytoplasma (EPPO A2 quarantine pest) and plum leptonecrosis or plum decline. Both diseases are among the most important infectious disorders of apricot and plum and the predominant causes of decline and death of productive trees.
Apart from an isolated and unconfirmed report in South Africa, apricot chlorotic leaf roll is apparently only present in Europe, in the following countries: France (throughout the areas of apricot cultivation), Greece, Italy (especially in Emilia-Romagna and Campania), Hungary*, Romania, Spain (especially in Valencia province), Switzerland and former Yugoslavia. The disease has been found in the past in Cyprus but did not establish. Plum leptonecrosis seems to be present in all European countries where Japanese plum is grown.
Recently, similar symptoms have been observed in almond and peach in Germany and Spain. These decline diseases of almond, apricot, peach and plum are now attributed to European stone fruit yellows phytoplasma. The author noted that European stone fruit yellows is therefore known to occur in all Mediterranean countries and as far north as Germany.

Source: Seemüller, E. (1995) European Stone Fruit Yellows. In: Compendium of Stone Fruit Diseases, APS, St Paul (USA).

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* new record according to the EPPO Secretariat.

Additional key words: new record, taxonomy. **Computer codes**: ABCLRX.

96/004 First report of fireblight in Croatia

Fireblight (*Erwinia amylovora*, EPPO A2 quarantine pest) has been found for the first time in Croatia in 1995. However, it can be recalled that fireblight had previously been reported in former Yugoslavia along the borders with Bulgaria, Greece and Albania as well as two locations in central Yugoslavia (see EPPO RS 509/14, 1991). The disease has been found in five locations in the eastern part of Croatia on: apple (cv. Idared), pear (cv. Red Bartlett) and quince. Infection was observed on single trees at Nustar, Osijek, Drenje, Cepin, Petrijevci, Bizovac, Jarmina. In Drenje (near Đakovo) a small apple orchard was also infected. An eradication programme is being carried out, infected plots have been destroyed and monitoring surveys including field inspections and laboratory testing are being conducted.

Source: **Ministry of Agriculture and Forestry of Croatia, 1996-01.**
University of Zagreb, 1996-01.

Additional key words: new record. **Computer codes:** ERWIAM, HR.

96/005 First report of *Diabrotica virgifera* in Croatia

The first adult beetle of *Diabrotica virgifera* (EPPO A2 quarantine pest) has been found in Croatia in early August. This adult is the only specimen which has been found so far. It was caught in one trap (containing an attractant) in a corn field in the village of Bosnjaci, in the province of Vukovarsko-srijemska zupanija (near the Serbian border). No other corn root worm has been found either visually or in 200 yellow sticky traps, or in 150 traps with attractant which have been placed and surveyed in Croatia, in 1995.

Source: EPPO Secretariat, 1995-10.
International Workshop "Western Corn Rootworm in Europe 95, Gödöllö (HU), 1995-11-08.

Additional key words: new record **Computer codes:** DIABVI, HR.

96/006 Situation of *Diabrotica virgifera* in Serbia (YU)

During the International Workshop "Western Corn Rootworm in Europe 95", which took place in Gödöllö (HU), 1995-11-08, the present situation of *Diabrotica virgifera* (EPPO A2 quarantine pest) in Serbia was presented. It can be recalled that *D. virgifera* was observed for the first time in the vicinity of Surcin airport, near Belgrade, on a small maize plot (0,5 ha) in July 1992. It is thought that it may have been introduced in 1990, by air transport, from North America. The pest multiplied and spread during 1993 and 1994. The main direction for spread was towards the north-west; in general, the main movement of the populations followed the prevailing winds (see EPPO RS 95/116). Monitoring of the pest populations has continued in 1995, by visual inspections and use of cucurbitacin traps. During this year, spread of *D. virgifera* was observed towards the north (40-50 km compared to 1994), towards the west (10 km) and the east (10 km). The density of the pest, as well as the intensity of attack, diminished with the distance from the first focus near Surcin airport. Damage observed in Serbia is still not very significant. In 1992, only 0,5 ha was concerned, with a medium attack; in 1993 *D. virgifera* occupied a much larger area (110.000 ha) but damage was seen only on 6 ha. As 1993 was a very dry and warm year more than 80 % of the plants in these 6 ha were severely damaged and no harvest was obtained. In 1994, the infested area reached 200.000 ha, and approximately 70 ha were damaged. The intensity of the damage was moderate, as a harvest could be obtained. In 1995, 275 ha of maize were damaged, and the intensity of damage can be considered as low to medium. In Serbia, 50 to 70 % of maize is grown in monoculture which is a favourable factor for the development of *D. virgifera*. For the moment, the only control method applied in practice is crop rotation, essentially with wheat and sunflower. *D. virgifera* has not been observed on these crops. However, as chemical control would be needed in the future, several trials on insecticide efficacy have been carried out in 1994-1995. Trials are made on plots of 100 m^2 with 4 replicates, in fields where more than 20 beetles per plant can be found. The economic threshold is approximately of 1 adult per plant. Treatments were made before sowing, at sowing or during the growing season. The best results were obtained respectively, before sowing with terbufos, lindane and bifenthrin; at sowing with terbufos, chlormephos, lindane and bifenthrin; during growing season with carbosulfan, terbufos and phorate. The best protection is obtained with a treatment at sowing.

Source: International Workshop "Western Corn Rootworm in Europe 95", Gödöllö (HU), 1995-11-08.

Additional key words: detailed record. **Computer codes**: DIAVA, YU.

96/007 Situation of *Diabrotica virgifera* in Hungary

At the end of June 1995, the first adult of *Diabrotica virgiferea* (EPPO A2 quarantine pest) was caught in Csongrad county, near the Serbian border (see EPPO RS 95/157) in a cucurbitacin trap. Later in August, *D. virgifera* was caught in sex pheromone traps, at four other sites along the border with Serbia and also with Romania. However, *D. virgifera* has not been found in Romania. Monitoring of pest populations in the south of Hungary will certainly continue during the next maize-growing season.

In addition, a sex pheromone trap has been designed in Hungary. It is specific for *D. virgifera* and more attractive than the cucurbitacin trap. This trap is transparent in order not to attract other non-target pests. Several types of traps have been designed, triangular or flat traps (but they use the same chemical substance). Flat traps appear to be more efficient. Hungary is ready to sell these traps at cost-production price to countries which are at risk and want to implement a monitoring programme for *D. virgifera*.

Source: International Workshop "Western Corn Rootworm in Europe 95, Gödöllö (HU), 1995-11-08.

Additional key words: detailed record. **Computer codes:** DIABVA, HU.

96/008 *Clavibacter michiganensis* subsp. *sepedonicus* is not present in Romania

The EPPO Secretariat has recently been informed by the Plant Protection Service of Romania that *Clavibacter michiganensis* subsp. *sepedonicus* is not present in this country. In the EPPO distribution list, the record of potato ring rot in Romania was considered as unconfirmed. In fact, potato ring rot was recorded in 1957, in a single publication, and was never found by the central laboratory of plant quarantine since that date. Therefore, the official authorities consider that *Clavibacter michiganensis* subsp. *sepedonicus* is absent from Romania.

Source: **Plant Protection Service of Romania, 1996-01.**

Additional key words: denied record. **Computer codes:** CORBSE, RO.

96/009 Citrus tristeza closterovirus is present in St Lucia

A report on Plant Health has been prepared by IICA Office in Trinidad and Tobago/CARAPHIN (CARibbean Animal and Plant Health Information Network) which contains replies to a questionnaire on quarantine pests received from several countries in the Caribbean (Antigua and Barbuda, Belize, Dominica, Grenada, Guadeloupe, Guyana, Jamaica, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Suriname, Trinidad and Tobago). This report confirms earlier replies already studied by the EPPO Secretariat (EPPO RS 95/021) and mentions the presence of citrus tristeza closterovirus (EPPO A2 quarantine pest) in St Lucia, which is a new record according to the EPPO Secretariat.

Source: Anonymous (1994) CARAPHIN - Plant Health, July-December 1994, 36p

Additional key words: new record. **Computer codes:** LC, CSTXXX.

96/010 Situation of beet necrotic yellow vein furovirus in Hungary

Rhizomania, caused by beet necrotic yellow vein furovirus (EPPO A2 quarantine pest) is one of the most important factor causing yield reduction on sugar beet in Hungary. Studies have been carried out in 40 sugar beet plots, in four counties (Borsod-Abauj-Zemplén, Fejér, Heves, Szabolcs-Szatmar-Bereg). The virus was identified by ELISA tests. In these four counties, the average infection level varied from 7.4 to 42.8 %. The lowest incidence was observed in Szabolcs-Szatmar-Bereg county and the highest in Fejér county.

Source: Pocsai, E.; Csete, S.; Domak, B.; Dula, B.; Kobza, S.; Szöke (1995) [Spread of beet necrotic yellow vein furovirus (rhizomania) and its study in Hungary in 1994].
Növényvédelem, 31(9), 427-433.

Additional key words: detailed record. **Computer codes:** BTNYVX, HU.

96/011 Molecular studies on tomato yellow leaf curl geminivirus isolates from the Mediterranean region

So far, four tomato yellow leaf curl geminivirus (EPPO A2 quarantine pest) isolates from the Mediterranean region have been sequenced (2 from Israel, 1 from Italy (Sardinia),
1 from Spain). Studies have been carried out in Italy on a TYLCV isolate from Sicily, where the disease has been reported to reduce the tomato production since 1988. The DNA of this isolate has been cloned and sequenced. Comparisons with other isolates from western Mediterranean region (Sardinia and Spain) showed high total sequence homology (above 90 %), whereas with the isolate from the eastern Mediterranean region (Israel) a lower homology was obtained (76 %). These results were also confirmed by the use of digoxigenin-labelled probes prepared from the TYLCV isolates from Sicily and from Israel. In dot-blot experiments on samples prepared from TYLCV-infected tomatoes and collected in different Mediterranean areas (Sicily, Sardinia, Lebanon and Turkey), the TYLCV-Sicily probe reacted strongly with western Mediterranean isolates and moderately with those from the eastern Mediterranean. The authors noted that, in the Mediterranean Basin, it would be preferable to use a mixture of probes, in order to detect both western and eastern isolates. They concluded that these results confirmed that the isolate from Sicily belongs to the west Mediterranean group and they considered that it is unlikely that tomato yellow leaf curl disease reached western Europe through the Middle East (where it is indigenous). Therefore, further epidemiological studies will be necessary to identify the origin of TYLCV in the West Mediterranean Basin.

Source: Crespi, S.; Noris, E.; Vaira, A.M.; Accotto, G.P. (1995) Molecular characterization of cloned DNA from a tomato yellow leaf curl virus isolate from Sicily.
Phytopathologia Mediterranea, 34 (2), 93-99.

Computer codes: TMYLCX.

96/012 Studies on resistance to tomato yellow mosaic geminivirus

During the past several years, in Venezuela, tomato yellow mosaic geminivirus (ToYMV) has caused millions of dollars in losses in commercial tomato (*Lycopersicon esculentum*). By the time of flowering, 90-100 % of tomato plants can become infected by ToYMV. Symptoms of the disease are a golden yellow mosaic and stunting, and no fruit is produced if plants are infected early. ToYMV is transmitted by *Bemisia tabaci* (EPPO A2 quarantine pest). Studies have been carried out on resistance to this disease, and several accession of *Lycopersicon chilense*, *L. hirsutum* and *L peruvianum* var. *glandulosum* have shown tolerance or high degree of resistance to a Venezuelan isolate to ToYMV.

Source: Piven, N.M.; de Uzcátegui, R.C.; Infante, H.D. (1995) Resistance to tomato yellow mosaic virus in species of *Lycopersicon*.
Plant Disease, 79(6), 590-594.

96/013 PCR detection of tomato ringspot nepovirus

A polymerase chain reaction technique (RT-PCR) has been developed in United States to detect tomato ringspot nepovirus (EPPO A2 quarantine pest) in herbaceous and woody plant tissues. The isolates studied were chosen to represent the five reported serotypes of TomRSV and also a variety of isolates of economic significance (from apple, grapevine, plum, peach, apricot and raspberry). All isolates were successfully detected and no reaction was observed with healthy plant tissues or with a closely related virus (cherry rasp leaf nepovirus). This test can detect as little as 60 pg of target sequence in *Malus sylvestris* leaf tissue. The authors felt that the high sensitivity and specificity of this PCR method give a new and powerful tool to study tomato ringspot nepovirus.

Source: Griesbach, R.A. (1995) Detection of tomato ringspot virus by polymerase chain reaction.
Plant Disease, 79 (10), 1054-1056.

Additional key words: new detection method. **Computer codes:** TMRSXX

96/014 Differentiation between forms of *Lymantria dispar*

Studies have been carried out in Germany to differentiate between forms of *Lymantria dispar*, as it has been suggested that the last outbreak of gypsy moth in Europe could be the result of an introduction or migration of *L. dispar* from Asia. In United States, introductions of gypsy moths from Asia have been reported (EPPO RS 94/136) and American scientists have observed that these insects had a broader host range and that females had better flying capabilities.

A first series of cluster analysis with RAPD patterns has been performed with specimens of *L. dispar* originating from 15 habitats in Germany (Hessen, Baden-Württemberg, Sachsen, Bayern, Niedersachsen, Nordrhein-Westfalen, Brandenburg, Sachsen-Anhalt), and 8 habitats ranging from Russia (Ulyanovsk, Tatarstan) and Kazakhstan, to Asia (Manchuria, eastern China, south-eastern China and Japan). Cluster analysis was performed on data sets with increasing numbers of RAPD characters using a total of five different random primers. When studying 12 to 16 characters obtained with a single primer, a separation was obtained between Asian and European populations but with occasional appearance of one to three Asian populations in the European branch of the dendrogram. When studying 72 characters obtained with 5 primers, a clear separation was obtained between Asian and European provenances. In addition, the geographical origin was reflected in the order of the phylogenic tree, e.g. all specimens from Hessen were clustered together, and Asian populations were predominantly clustered correctly.

A second series of cluster analysis was performed on 5 individuals of the Tatarstan population detected in the European branch and 14 individuals from a Hessen population. In addition, *L. dispar* from Spain and *L. monacha* were included in this study as references. Evaluation of 28 characters obtained with two primers again resulted in strict separation between the Tatarstan and Hessen populations. Genetic differences between *L. dispar* samples ranged from zero to approximately 30 %, and the difference between *L. monacha* and *L. dispar* was 96 %. Analogous experiments are under way comparing individuals from other German outbreak areas (e.g. Baden-Württemberg) with those of an Asian provenance.

The occasional appearance of Asian provenances in the European branch of the dendrograms should be regarded as marginal similarities since they were only obtained when small numbers of RAPD characters were evaluated. The results obtained so far do not support the hypothesis of an introduction of gypsy moth genotypes from Asia into Europe.

Source: Graser, E.; Wulf, A.; Burgermeister, W. (1996) Genetic distances between Asian and European *Lymantria dispar* populations revealed by cluster analysis of RAPD patterns. **Nachrichtenblatt des Deutschen Pflanzenschutzdienstes (in preparation**)

Computer codes: LYMADI.

96/015 Tomato spotted wilt tospovirus is present in Hungary

In Hungary, a severe outbreak of tomato spotted wilt tospovirus (potential EPPO A2 quarantine pest) has been observed in 1995 on tomato and capsicum crops grown in plastic tunnels in Szentes region (central part of Hungary). Before, the pathogen was only known in the north-eastern region, causing severe yield losses in tobacco crops. Biological and serological studies showed that capsicum and tomato isolates are not different from a tobacco isolate. The authors felt that it is not a new virus strain which has appeared in capsicum and tomato fields, but that the ecological conditions became probably more favourable to the rapid spread of the pathogen to new areas and new hosts, where it was not detected before. They pointed out that, due to the rapid spread of the pathogen and its vectors (*Thrips tabaci* and *Frankliniella occidentalis*), tomato spotted wilt tospovirus is a threat for the capsicum and tomato production in Hungary. The EPPO Secretariat had previously no information on the occurrence of tomato spotted wilt tospovirus in Hungary.

Source: Gáborjányi, R.; Basdinyei, R.; Almási, A.; Csilléry, G.; Ekés, M. (1995) [Identification of tomato spotted wilt virus pathotype on pepper and tomato.]
Növényvédelem, 31(11), 533-540.

Additional key words: new record. **Computer codes:** TMSWXX, HU.

96/016 Tomato spotted wilt tospovirus occurs in Louisiana (US)

Since tomato spotted wilt tospovirus (TSWV - potential EPPO A2 quarantine pest) has been identified in Louisiana (US) in 1972, it has become a serious problem on several solanaceous crops. Though exact data is not available for capsicum and tobacco, surveys have shown that the incidence of TSWV in commercial tomato fields has averaged 10 to
30 %, and currently TSWV is the most important limiting factor of tomato production in Louisiana. Studies have demonstrated that TSWV can overwinter in Louisiana and natural virus infections have been detected in 3 winter weeds: *Ranunculus sardous*, *Lactuca floridana* and *Sonchus asper*. In addition, *Frankliniella fusca* adults collected from *Ranunculus* spp. were able to transmit TSWV to tomato. Other vector thrips species were not detected in association with these weed species during winter and spring. The authors concluded that this study indicates that, in Louisiana, *Frankliniella fusca* is an important vector of TSWV. The EPPO Secretariat had previously no information on the status of TSWV in Louisiana.

Source: Johnson, R.R.; Black, L.L.; Hobbs, H.A.; Valverde, R.A.; Story, R.N.; Bond, W.P. (1995) Association of *Frankliniella fusca* and three winter weeds with tomato spotted wilt virus in Louisiana.
Plant Disease, 79(6), 572-576.

Additional key words: detailed record, epidemiology. **Computer codes:** TMSWXX, US.

96/017 New hosts plants of tomato spotted wilt tospovirus

1) Studies have been carried out in Spain to identify hosts of tomato spotted wilt tospovirus (potential EPPO A2 quarantine pest) in areas where the disease is prevalent. 65 plant species have been tested by using DAS-ELISA. 32 plant species were found infected among which 9 are new hosts of tomato spotted wilt tospovirus. Two are ornamental plants: *Limonium sinuatum* and *Moluccella laevis*, and others are the following weeds: *Amaranthus blitum*, *Cynodon dactylon*, *Galium tricornutum*, *G. parisiense*, *Lamium amplexicaule*, *Silene vulgaris* and *Sonchus tenerrimus*.

2) In July 1992, approximately 5 % of field-grown lentil (*Lens culinaris*) in central Brazil (Brasilia-DF) showed symptoms of chlorosis and malformation of the apical leaves, ringspot lesions on pods and stunting. The causal agent was identified as tomato spotted wilt tospovirus (potential EPPO A2 quarantine pest). The authors felt that this new disease may become an important limiting factor for lentil production in central Brazil, as the crop is grown during the dry season (April-September) which corresponds to the highest infestation of viruliferous thrips in the region. This is the first report of a natural infection of tomato spotted wilt tospovirus on lentil.

3) In Emilia-Romagna and Toscana (Italy), infections of tomato spotted wilt tospovirus (potential EPPO A2 quarantine pest) and impatiens necrotic spot tospovirus have been reported in *Columnea* spp. (ornamentals), in 1992. The authors noted that infections with these two viruses have recently been reported in Germany and USA. Tomato spotted wilt tospovirus was found on plants showing yellow systemic mosaic and malformed leaves. Impatiens necrotic spot tospovirus was detected in some plants showing necrotic spot on the leaves. Mixed infections were found in dwarfed *Columnea* which did not bloom and produced deformed leaves showing mosaic and necrosis.

4) Finally, since October 1994 the Plant Protection Service of the Netherlands has found the following new species infected by tomato spotted wilt tospovirus, originated from the Netherlands, from abroad or from both: *Bromelia* (Bromeliaceae), *Cestrum rubrum* (Solanaceae), *Lobelia valida*, *Oxypetalum* (Asclepiadaceae), *Pachypodium* (Apocynaceae).

Sources: Jordá, C.; Ortega, A.; Juarez, M. (1995) New hosts of tomato spotted wilt virus.
Plant Disease, 79(5), p 358.

Fonseca, M.E.N.; Boiteux, L.S.; de Avila, A.C.; Lima, M.I.; Kitajima, E.W. (1995) Detection of tomato spotted wilt tospovirus in lentil.
Plant Disease, 79(3), p 320.

Bellardi, M.G.; Vicchi, V. (1995) [Columnea spp. natural host of tospoviruses in Italy.]
Informatore Fitopatologico, 45(5), 62-64.

Plant Protection Service of the Netherlands, 1995-10.

Additional key words: new host plants. **Computer codes:** TMSWXX.

96/018 Detection kit for tomato spotted wilt and impatiens necrotic spot tospoviruses

A new detection kit for tomato spotted wilt (potential EPPO A2 quarantine pest) and impatiens necrotic spot tospoviruses, is available on the market. This QTA-Tospo™ Kit is sold by Agdia ® inc., 30380 County Road 6, Elkart, IN 46514 USA.
Tel: 219/264-2014
Fax: 219/264-2153.

Source: **EPPO Secretariat, 1995-12.**

96/019 Course on nematode problems in protected crops - control and management

A course on nematode problems in protected crops, control and management will be held in Tunis (TN), in 1996-03-18/29. It is jointly organized by the Mediterranean Agronomic Institute of Chania and the National Agronomic Institute of Tunisia with the support of the Commission of the European Communities and the Ministry of Agriculture of Tunisia. The aim of this course is to analyze nematode problems in the various Mediterranean subclimates and socio-economic situations and to study control and management practices. This course will include lectures, field visits, case studies and round table discussions and will be given in English. Applicants must have a university degree in Agriculture, Biology or Food Sciences.

Contact address: Mediterranean Agronomic Institute of Chania (MAICh)
P.O. Box 85
73100 Chania, Crete, Greece
Fax: 30-821-81154

Source: EPPO Secretariat, 1996-01.

96/020 4th International EFPP Symposium - Diagnosis and Identification of Plant Pathogens

The European foundation for Plant Pathology (EFPP) will hold its 4th International Symposium together with the German 'Phytomedizinische Gesellschaft' on 1996-09-09/12, in Bonn (DE). The theme of this Symposium is 'Diagnosis and Identification of Plant Pathogens', and the following topics will be covered: 1) isolation techniques, 2) taxonomy, 3) microscopy, 4) serological assays, 5) nucleic acid hybridization techniques, 6) fatty acid analysis, 7) diagnostic kits, 8) disease assessment and quantification, 9) disease prognosis and expert systems.

Contact address: Prof. Dr. Heinz-W. Dehne
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Source: **EPPO Secretariat, 1995-12.**