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95/024 EE...Quarantine lists of Estonia

The lists of pests, plant diseases and weeds of quarantine importance for the Estonian Republic are the following:

A1 LIST

Insects

Agrilus mali
Callosobruchus chinensis
Callosobruchus maculatus
Caulophilus latinasus
Ceratitis capitata
Ceroplastes japonicus
Ceroplastes rusci
Cydia (*Grapholita*) *molesta*
Dialeurodes citri
Graphognathus (*Pantomorus*) *leucoloma*
Hyphantria cunea
Lopholeucaspis japonica
Monochamus spp. (non-European)
Phthorimaea operculella
Pissodes spp. (non-European)
Popillia japonica
Pseudaulacaspis pentagona
Pseudococcus calceolariae (*P. gahani*)
Pseudococcus comstocki
Quadraspidiotus perniciosus
Rhagoletis pomonella
Scolytidae (non-European)
Spodoptera littoralis
Spodoptera litura
Trogoderma granarium

Nematodes

Bursaphelenchus xylophilus
Globodera pallida

Fungi

Didymella ligulicola (*D. chrysanthemi*)
Mycosphaerella linorum
Phymatotrichopsis omnivora
Puccinia horiana
Tilletia indica

Bacteria

Erwinia amylovora
Pseudomonas caryophylli
Xanthomonas campestris pv. *hyacinthi*

Weeds

Ambrosia artemisiifolia
Ambrosia psilostachya
Ambrosia trifida
Cenchrus pauciflorus
Helianthus spp.

A2 LIST

Insects

Frankliniella occidentalis
Leptinotarsa decemlineata

Nematodes

Globodera rostochiensis

Fungi

Synchytrium endobioticum

Weeds

Cuscuta spp.

B LIST - Other economically dangerous pests

Insects

Aleurocanthus woglumi
Bactrocera (*Dacus*) *dorsalis*
Callosobruchus sp.
Chionaspis furfura
Chrysomphalus rossi
Dinoderus bifoveolatus
Dysmicoccus wistariae
Keiferia (*Phthorimaea*) *lycopersicella*
Liriomyza huidobrensis
Liriomyza sativae
Liriomyza trifolii
Nipaecoccus nipae
Paralipsa gularis
Pinnaspis strachani
Pseudoparlatoria parlatorioides (?)
Rhizoecus kondonis
Sinoxylon conigerum
Thrips palmi
Trogoderma angustum
Trogoderma ballfinchus (?)
Trogoderma grassmani
Trogoderma longisetosum (?)
Trogoderma ornata

Insects (cont.)

Trogoderma simplex
Trogoderma sternale
Zabrotes subfasciatus

Fungi

Phialophora cinerescens
Phoma andina
Thecaphora (*Angiosorus*) *solani*

Viruses and virus-like diseases

American plum line pattern virus
Andean potato viruses
Barley stripe mosaic hordeivirus
Chrysanthemum stunt viroid
Plum pox potyvirus
Potato vein-yellowing disease
Potato yellow dwarf rhabdovirus
Rose wilt disease

Source: **EPPO Secretariat, 1994-11.**

95/025 **RU...Plant pathogens as quarantine pests in Russia and ex-USSR**

RS 95/002 recently presented the new quarantine lists of Russia. Specific information is now available on the plant pathogens of this list. In general, the A1 pests have not been recorded in Russia or in any part of the former USSR. However, the following isolated occurrences may be noted:

- *Diaporthe phaseolorum* var. *caulivora*: isolated foci in 1986/1989 in Krasnodar territory (far south of Russia) and Abkhazia (Georgia). Not established.
- *Didymella ligulicola*: intercepted in quarantine nurseries.
- *Erwinia amylovora*: outbreak in Armenia in 1989 (already reported in 506/08). No records in former USSR since.
- Grapevine flavescence dorée MLO: suspicious symptoms seen in Moldova and Ukraine but disease not positively identified.

For the A2 pathogens, the positions can be summarized as follows:

- *Diaporthe helianthi*: Stavropol territory (far south of Russia), Belgorod province (North of border with Ukraine), also Moldova, Ukraine.
- *Synchytrium endobioticum*: many regions of Russia, Baltic states, Belarus, Ukraine, a few foci in Armenia.
- *Cochliobolus heterostrophus* race T: Krasnodar and Stavropol territories (North Caucasus), Kabardin-Balkar and Chechen-Ingush autonomous republics (Caucasus).
- Plum pox potyvirus: Krasnodar and Stavropol territories (North Caucasus), Volgograd and Rostov provinces (South Russia).

The Russian list also covers 'potentially dangerous pathogens for Russia'; mostly of A1 type. A few have an A2 type of distribution:

- *Phomopsis viticola*: Krasnodar territory (North Caucasus), Ukraine, Georgia, Moldova.
- *Eutypa lata* (= *E. armeniacae*): Moldova and Ukraine
- *Xylophilus ampelinus*: Moldova
- Peach yellows MLO: a similar disease was reported from Turkmenistan in the 1950s.

Source: Anonymous (1994) [Brief characteristics of phytopathogens having quarantine importance].
Zashchita Rastenii, no. 4, 16-19.

95/026 **PSDMFV/RU...**Bacterial sheath rot of rice in Russia

EPPO RS 508/06 of 1990-11 referred to the discovery that bacterial sheath rot of rice is present in many more countries than originally reported. Matveieva *et al.* report that, in Primor'e territory in the Far East of Russia, bacterial sheath rot is caused by two bacteria: *Pseudomonas fuscovaginae* (known from Japan, Latin America and Africa) and *P. syringae* pv. *syringae* (cosmopolitan, but reported from rice in Europe, Australia and Chile). The disease is often epiphytotic. Brown spots appear on the leaves and sheaths at the time of maximum tillering. The plants stop growing, the inflorescences emerge poorly, seeds are shrivelled and grain yield is reduced.

Source: Matveieva, Y.V.; Pekhtereva, E.S.; Fokina, V.G. (1994) [Bacterial disease of rice].
Zashchita Rastenii, no. 4, 19-20.

95/027 **BURSXY...**Survival of *Bursaphelenchus xylophilus* in wood chips

In Canada, in vitro studies have been carried out on the survival of two isolates of *Bursaphelenchus xylophilus* (EPPO A1 quarantine pest) in wood chips. The wood chips were composed of a mixture of *Pinus contorta* var. *latifolia*, *Tsuga heterophylla* and *Pseudotsuga menziesii* and were fumigated with methyl bromide before inoculation of the nematodes. After 4-6 weeks of incubation at 20-22 °C, nematode numbers stabilized at about 50 % of the original inoculum (approximately 2000 nematodes per sample of 6-7 g of wood chips). It was found that *B. xylophilus* was able to survive in low numbers at 20-22 °C for up to 14 months (British Columbia isolate) or 20 months (Alberta isolate).

In addition, the effects of temperature (10, 20, 30, 40 °C), relative humidity (52, 75, 85, 100 %), and time (4, 10, 20, 30 days) on the survival of *B. xylophilus* in wood chips were analysed. Statistical analysis showed that significant effects were produced by temperature, time and isolate. It was observed that only the combinations of 40 °C and 30 days (irrespective of RH and isolate) and of 40 °C, 20 days and 52 % RH killed all the nematodes in wood chips. However, the authors considered that these combinations were not convenient for treatments of large quantities of wood chips because of the long exposure times involved.

The body length and lipid level of the nematodes present in the wood chips indicated that a high proportion of the population was probably composed of dispersal third-stage larvae, although the average length was less that previously reported for *B. xylophilus*.

Though the authors concluded that the introduction of pine wilt disease into European countries by means of infested wood chips would depend also on several other biological and climatic factors necessary for nematode transmission, this study confirms that *B. xylophilus* can survive (and most probably as the dispersal third-stage larvae) in wood chips.

Source: Panesar, T.S.; Peet, F.G.; Sutherland, J.R.; Sahota, T.S. (1994) Effects of temperature, relative humidity and time on survival of pinewood nematodes in wood chips.
European Journal of Forest Pathology, 24 (5), 287-299.

Additional key words: biology.

95/028 **BURSXY...**Long-term survival of *Bursaphelenchus xylophilus* in a *Pinus sylvestris* plantation

Field inoculation studies have been carried out in Vermont (US). The aim was to assess the long term survival of *Bursaphelenchus xylophilus* (EPPO A1 quarantine pest) on *Pinus sylvestris*, in an established plantation of 20-year old trees. During summer 1987, 100 *P. sylvestris*, apparently healthy, were inoculated with the nematode (*P. sylvestris* isolate of *B. xylophilus* from Vermont). Inoculated trees were then periodically observed and sampled (or harvested) for the nematode up to the end of 1993. *B. xylophilus* was still present in living, healthy looking pines six years after inoculation. The nematode has been found in 20 % of the inoculated trees, of which 68 % were still living trees at the time of the first positive extraction. The authors concluded that the trees may contain low numbers of *B. xylophilus* in living and apparently healthy trees. They felt that this may be of concern to European forests: because if the nematode was introduced it could survive without being suspected for several years especially under cool climates, but could increase its population under certain conditions (e.g. dry and hot summers, stress due to timber operations) and induce tree mortality.

Source: Halik, S.; Bergdahl, D.R. (1994) Long-term survival of *Bursaphelenchus xylophilus* in an established plantation.
European Journal of Forest Pathology, 24 (6-5)

Additional key words: biology.

95/029 **HETDGL...**Influence of *Heterodera glycines* on sudden death syndrome of soybean

Studies have been carried out in Louisiana (US), on the relationships between *Heterodera glycines* (EPPO A1 quarantine pest) and the blue strain of *Fusarium solani*, the probable causal agent of sudden death syndrome of soybean, as very often the two pests are present on diseased plants. Half roots of soybean plants (*Glycine max*) were inoculated. Both foliar symptoms and root necrosis ratings were more severe when plants were artificially inoculated with the two pathogens on one root half than on opposite root halves.

Source: McLean, K.S.; Lawrence, G.W. (1994) Localized influence of *Heterodera glycines* on sudden death syndrome of soybean.
Journal of Nematology, 25 (4), 674-678.

95/030 **CORBSE...Timing of inspections for foliar symptoms of *Clavibacter michiganensis* spp. *sepedonicus***

Studies have been carried out in United States on the onset and maximum incidence of foliar symptoms in potato caused by *Clavibacter michiganensis* spp. *sepedonicus* (EPPO A2 quarantine pest), in order to define the optimal timing of field inspections. Proportional hazard models have been used and predicted a minimum of 50 and 82 days after planting respectively, for symptom onset and maximum disease incidence. However, as environmental conditions (especially geographical location) so much influenced the time when these two events occur, the authors concluded that an environmentally based model should be useful for predicting expression of bacterial ring rot symptoms.

Source: Westra, A.A.G.; Arneson, C.P.; Slack, S.A. (1994) Effect of interaction of inoculum dose, cultivar, and geographic location on the development of foliar symptoms of bacterial ring rot of potato.
Phytopathology, 84 (4), 410-415.

Additional key words: inspection method.

95/031 **XANTVE/IT...Characterization of *Xanthomonas campestris* pv. *vesicatoria* from *Capsicum annuum* in Italy**

In summers 1991 and 1992, 38 strains of *Xanthomonas campestris* pv. *vesicatoria* (EPPO A2 quarantine pests) have been isolated from pepper leaves and fruits (*Capsicum annuum*) in regions of Italy where the disease is present (central and southern regions), and characterized. Samples were collected in Lazio, Marche, Toscana, Umbria and Puglia regions, the pathogen was isolated and the pathogenic races determined by using differential pepper cultivars (different lines of cv. Early Calwonder, carrying single dominant genes Bs1, Bs2 and Bs3 conferring resistance to three races). The aim was to determine which pepper races were present in Italy and whether they were copper and/or streptomycin-resistant. The results showed that races 1, 2 and 3 are present on pepper in Italy, respectively 39 %, 16 % and 45 % of the tested strains. Races 3 and 1 are the predominant races (84 % of the tested strains). Race 2 was only detected in 1991. Among all tested strains, 45 % were resistant to copper sulphate but none was found resistant to streptomycin sulphate (note that antibiotics are not permitted in Italy). All strains belonging to race 2 and 73 % of race 1 were resistant to copper, while all race 3 strains were sensitive to copper.

Source: Buonaurio, R.; Stravato, V.M.; Scortichini, M. (1994) Characterization of *Xanthomonas campestris* pv. *vesicatoria* from *Capsicum annuum* L. in Italy
Plant Disease, 78 (3), 296-299.

95/032 **XANTFR...Identification of *Xanthomonas fragariae* in infected strawberry by ELISA**

An indirect ELISA test has been developed in California (US) to detect *Xanthomonas fragariae* (EPPO A2 quarantine pest). The antiserum produced reacted positively with 34 strains of *X. fragariae* but not with 16 of the 17 pathovars of *X. campestris* nor with *Agrobacterium* spp., *Erwinia amylovora*, *Pseudomonas* spp., *Rhodococcus fascians* and non-pathogenic bacteria isolated from strawberry. With this method, it was possible to detect *X. fragariae* from lesions obtained on leaf disks by artificial inoculation, from lesions present on plants showing symptoms of angular leaf spot disease in the field, and even from frozen infested tissues. Though it is less sensitive than the pathogenicity tests, this indirect ELISA test can be very useful for testing large numbers of field samples because of its simplicity, speed and specificity.

Source: Rowhani, A.; Feliciano, A.J.; Lips, T.; Gubler, W.D. (1994) Rapid identification of *Xanthomonas fragariae* in infected strawberry by Enzyme-Linked Immunosorbent Assay.
Plant Disease, 78 (3), 248-250.

95/033 **CKCCXX...Pollen and seed transmission of coconut cadang-cadang viroid in *Cocos nucifera***

Studies carried out in the Philippines have shown that coconut cadang-cadang viroid (EPPO A1 quarantine pest) could be transmitted through seednuts and pollen of coconut palms (*Cocos nucifera*). F1 progenies of healthy and infected parents pollinated with diseased pollen contained the viroid and showed typical symptoms of the disease, 6 years after germination. In addition, coconut cadang-cadang viroid was detected in seedlings, embryos and plantlets grown in vitro originating from naturally infected palms. The authors concluded that this was the first evidence of cadang-cadang disease transmission to progenies of infected palms, although at a low level, or through seeds of healthy mother palms fertilized with diseased pollen. However, they felt that other means of transmission are probably involved considering the large epidemics which have occurred, and several other epidemiological observations.

Source: Pacumbaba, E.P.; Zelazny, B., Orense, J.C.; Rillo, E.P. (1994) Evidence for pollen and seed transmission of coconut cadang-cadang viroid in *Cocos nucifera*.
Journal of Phytopathology, 142 (1), 37-42.

Additional key words: epidemiology.

95/034 **TOXOCI/CSTXXX...**Further information on *Toxoptera citricidus* and citrus tristeza closterovirus in the Caribbean

In a paper from Etienne *et al.* (1994), it is recorded that *Toxoptera citricidus* (EPPO A1 quarantine pest) has been found in Saint Kitts and Nevis (in 1993) and that citrus tristeza closterovirus (EPPO A2 quarantine pest) is present in Puerto Rico (new records according to the EPPO Secretariat). In the Caribbean region, *T. citricidus* is spreading actively (see EPPO RS 94/159) but for the moment, tristeza is only mentioned from Trinidad and Puerto Rico.

Source: Etienne, J.; Huc, A.; Bayart, J.D.; Denon, D.; Anais, G. (1994) *Toxoptera citricidus* (Homoptera: Aphididae) a vector of citrus tristeza virus (CTV) in Guadeloupe: distribution and disease investigation.
Paper presented at the '30e Congrès CFCS', St Thomas (VI), 1994-07-31/08-05.

Additional key words: new records.

95/035 **AONDCI/IT...**First report of *Aonidiella citrina* in Italy (EU)

Aonidiella citrina (EU Annex II/A1 - potential EPPO A2 quarantine pest) has been recorded for the first time in Italy. The yellow scale has been detected on orange cvs Moro and Tarocco and on clementine. For the moment, the pest is only limited to the region near Corigliano in Calabria (southern Italy). It is felt that this pest was probably introduced into Italy two years ago. Defoliation and pitted fruits can be seen on attacked trees, but this scale does not attack bark (whereas *A. aurantii* damages the bark). However, the authors concluded that *A. citrina* does not seem to be a major citrus pest in this region, as it can be controlled by treatments against other scales (e.g. *A. aurantii*) and by natural enemies already present in the orchards. In addition, an exotic coccinellid predator *Chilochorus nigritus* has been released in infested citrus groves.

Source: Longo, S.; Mazzeo, G.; Russo, A.; Siscaro, G. (1994) [*Aonidiella citrina* (Coquillet) new citrus pest in Italy].
Informatore Fitopatologico, 34 (12), 19 -25.

Additional key words: new record.

95/036 TMRSXX/US...Incidence of tomato ringspot nepovirus in Michigan (US)

Surveys were carried out in commercial orchards of declining 'Stanley' prune (*Prunus domestica*) in Michigan (US) for the prune brown line disease, associated with tomato ringspot nepovirus (EPPO A2 quarantine pest). Fifty trees per orchard were examined for symptoms of brown line and pitting-grooving symptoms beneath the bark at the graft union. Samples of tissues were taken from the graft union and tested by ELISA. In addition, vector nematodes (*Xiphinema americanum*) were extracted from the soil and tested for TmRSV. The results showed that there was a strong correlation between symptoms of brown line and the detection of TmRSV. Vector nematode populations correlated positively with ELISA-positive trees from southwestern Michigan but not in west central and northwestern regions of Michigan. The authors concluded that TmRSV is endemic in Michigan orchard soils.

Source: Ramsdell, D.C.; Adler, V.A.; Kesner, C.R. (1993) Prune brown line disease occurrence in declining 'Stanley' plum orchards in Michigan and factors related to its incidence.
HortTechnology, 3 (3), 325-329.

Additional key words: detailed record.

95/037 TMSWXX...Tomato spotted wilt tospovirus found in artichoke in France

Tomato spotted wilt tospovirus (EPPO A2 quarantine pest) was observed for the first time in France on artichoke (*Cynara scolymus*), near Hyères (south of France), in 1993. It causes a chocolate brown discoloration and leaf curl symptoms.

Source: Monnet, Y. (1994) Les principaux problèmes phytosanitaires des cultures légumières et du fraisier en 1993.
Phytoma - La Défense des Végétaux, n° 459, 38-42.

95/038 TMSWXX/IMNSXX...Tomato spotted wilt and impatiens necrotic spot tospoviruses are not seed-transmitted

In reaction to the paper from Davino *et al.* (1994) concerning the possible transmission of tomato spotted wilt tospovirus (EPPO A2 quarantine pest) through seeds (EPPO RS 94/204), the EPPO Secretariat has been informed that during studies carried out in the Netherlands, seed transmission has never been found. Seed transmission was respectively studied on impatiens, sweet pepper and tomato for tomato spotted wilt virus, and on Cineraria and impatiens for impatiens necrotic spot virus. Seeds were harvested from infected plants and at least 400 seedlings per species were inspected and tested for the presence of these viruses. For none of these species, infected seedlings have been found.
In addition, the Dutch experts stressed that as TSWV is not found in the embryo of seeds, it indicates that seed transmission is not very probable. Although the virus can be present in the seed coat, infection of the embryo from this source is unlikely because of the low stability of the virus particles. In order to explain this discrepancy between the results obtained in Italy and Netherlands, the Dutch experts wondered whether the type of "virus-net" used in the experiment was adequate (mesh size should be 80 μm maximum to exclude thrips) and whether the presence of viruliferous pupae hidden in the soil was excluded.
It may also be noted that Annex II/A2 of EU Directive 77/93 prohibits host plants of TSWV intended for planting, seeds apparently included. EPPO has interpreted this as a mistake, when preparing the EPPO Summary of the EU Directive.

Source: **EPPO Secretariat, 1994-12.**

95/039 **VIRUSES...**Use of nets against viruses and their insect vectors in plastic greenhouses

Studies have been carried out in Italy and Spain on the use of nets in order to protect vegetable crops against viruses and their insect vectors.

1) *Bemisia tabaci* and tomato yellow leaf curl geminivirus (both EPPO A2 quarantine pests)

Several trials have been carried out in Sicilia (near Ragusa) in commercial plastic glasshouses of tomatoes with different types of nets placed on the apertures of the houses (in spring 1990, autumn-winter 1990-91, autumn 1991) and without insecticidal treatments. Tomato crops were regularly inspected for the presence of whiteflies (*Bemisia tabaci* and *Trialeurodes vaporariorum*) and of tomato yellow leaf curl. The efficacy of the different nets has also been tested in the laboratory with adults of *B. tabaci*. In the field, a good protection of the crop against whiteflies and excellent results for tomato yellow leaf curl were obtained with "antivirus" nets (10 x 20, 15 x 15, 12 x 12 mesh/cm^2). In the laboratory, these nets prevented adults of *B. tabaci* from escaping. However, the following types of nets: 'ombra 50' (6 x 8) and 'ombra 70' (8 x 10) gave inadequate protection as their mesh size is too large. The author concluded that the use of "antivirus" nets could

provide a satisfactory protection of tomato crops in Sicily against tomato yellow leaf curl and its vector without chemical treatments.

2) *Frankliniella occidentalis* and tomato spotted wilt tospovirus (A2 and potential A2 quarantine pests)

Studies have been carried out in Spain near Murcia on the effects of a dense net (28 x 28 mesh/cm) on the incidence of *Frankliniella occidentalis* and tomato spotted wilt tospovirus. The nets were placed on the apertures of plastic houses of pepper (*Capsicum annuum*) cv. "Sonar" grown from December 1991 to august 1992. The crop was regularly inspected to study the evolution of population dynamics and occurrence of TSWV symptoms. The experiment included three treatments: 1) net and chemical applications against thrips, 2) net without chemical applications, 3) no net and no treatment. The results obtained showed that the net could delay the appearance of thrips within the crop (delay of 3 weeks) but then favoured its multiplication (probably by preventing the insect from escaping from the glasshouse). Two weeks before the end of the crop, percentages of virus infection were respectively for each treatment: 36 %, 63 % and 94 %. In addition, it was found that the total plant height and yield were improved by the use of nets. The authors concluded that under their experimental conditions, the use of dense nets in addition to insecticide treatments, could be a useful method against *F. occidentalis* and tomato spotted wilt tospovirus.

Sources: Nucifora, S. (1994) Mallas antivirus para la defensa del cultivo de tomate protegido contra *Bemisia tabaci*, vector del TYLCV.
Phytoma España, n° 57, 40-48.

Lacasa, A.; Contreras, J.; Torres, J.; González,A.; Martínez, M.C., García, F. Hernández, A. (1994) Utilización de mallas en el control de *Frankliniella occidentalis* (Pergande) y el virus del bronceado del tomate (TSWV) en el pimiento en invernadero.
Plagas, 20 (3), 561-580.

Additional key words: control methods.

95/040 TMSWXX/TMYLCX...Situation of vegetable viruses in Islas Canarias (ES)

In Islas Canarias (ES), the following viruses have been found on vegetable crops. Tomato spotted wilt tospovirus (EPPO A2 quarantine pest) is the most important virus disease and can be found in nearly all growing areas of tomato, pepper and lettuce, especially where crops are grown during the whole year under plastic houses. Potato Y potyvirus can be very damaging on winter tomatoes grown outdoor or under screenhouses. Symptoms of tomato yellow leaf curl geminivirus (EPPO A2 quarantine pest) were first observed in Tenerife in January 1993 on winter tomato crops grown outdoor. Other viruses of minor importance have been recorded on tomato, pepper and lettuce (cucumber mosaic cucumovirus-Carna 5, tomato mosaic tobamovirus, lettuce mosaic potyvirus, pepper mild mottle tobamovirus). On Cucurbitaceae, zucchini yellow mosaic potyvirus, cucumber mosaic cucumovirus, watermelon mosaic potyvirus 1 can be found. Finally, melon necrotic spot carmovirus and squash mosaic comovirus have been observed for the first time in 1992, in the northern part of Tenerife, on melon.

Source: Otazo, C.; Torres, R.; Espino, A.I.; De Leon, J.M.; Rodriguez, A. (1993) Experiencias sobre control de virosis y modo de actuacion en Canarias.
Phytoma España, n° 50, 79-85.
Paper presented during the '4° Symposium - Las virosis en los cultivos horticolas mediterraneos', Valencia (ES), 1993-07-06/07.

Additional key words: detailed record.

95/041 TMYLCX...Update on the situation of tomato yellow leaf curl geminivirus on vegetable crops in Italy

In Italy, tomato yellow leaf curl geminivirus (EPPO A2 quarantine pest) was detected for the first time in Sardegna (1988), then in Sicilia and in 1991 in Calabria (south of Italy). The occurrence of this virus on continental Italy was not mentioned in the EPPO data base.

Source: Gallitelli, D.; Accoto, G.P.; Lisa, V. (1993) Introducción del CMV, TYLCV y TSWV en los cultivos de Italia: experiencias de control.
Phytoma España, n° 50, 104-105.
Paper presented during the '4° Symposium - Las virosis en los cultivos horticolas mediterraneos', Valencia (ES), 1993-07-06/07.

Additional key words: detailed record.

95/042 **BEMITA...Choice of ovipositional site of *Bemisia tabaci* on vegetables**

In order to design efficient sampling procedures for *Bemisia tabaci* (EPPO A2 quarantine pest), it is considered essential to know where its immatures stages can be found on the plant. Selection of ovipositional site by *B. tabaci* strain B (*B. argentifolii*) has been studied on 10 vegetable crops: *Cucumis melo* (melon), *Cucumis sativus* (cucumber), *Solanum melongena* (aubergine), *Capsicum annuum* (pepper), *Brassica oleracea* ssp. *acephala* (cabbage), *Vigna unguiculata* (cowpea), *Phaseolus vulgaris* (bean), *Cucurbita pepo* ssp. *melopepo* (summer squash), *Lycopersicon esculentum* (tomato) and *Citrullus lanatus* (watermelon) under field, greenhouse and laboratory conditions. The results showed that feeding and oviposition started on the cotyledons and then continued on the subsequent immature leaves, but no oviposition was observed on cotyledons of *Vigna unguiculata* and *Phaseolus vulgaris*. On most crops, 90-95 % of the eggs were laid on the lower surface of the leaves. In laboratory tests on four species (*Cucumis melo*, *Cucurbita pepo* ssp *melopepo*, *Phaseolus vulgaris* and *Vigna unguiculata*), eggs are mostly laid on leaves positioned at the top of the plant (strong negative geotropic response). The author felt that during sampling, consideration should be given to immature stages present on the lower leaf surface.

Source: Simmons, A.V. (1994) Oviposition on vegetables by *Bemisia tabaci* (Homoptera: Aleyrodidae): temporal and leaf surface factors. **Environmental Entomology, 23 (2), 381-389.**

Additional key words: behaviour.

95/043 **VIRUSES...**New geminivirus of tomato in Mexico

During 1990, tomato leaves collected in the Culiacan Valley of Sinaloa state, northwestern Mexico, showed crumpling, distortion and yellow mottle symptoms. Molecular studies have revealed the presence of a bipartite genome geminivirus, sap-transmissible to tomato and common bean on which it causes leaf crumpling, epinasty and mottling. The geminivirus has been molecularly characterized and the authors concluded that it differs from other characterized geminiviruses, and is most closely related to tomato mottle, abutilon mosaic and bean dwarf mosaic geminiviruses. The name tomato leaf crumple geminivirus has been proposed. However, the economic importance of this virus in tomato, common bean and possibly other hosts in Mexico is not known, as mixed infections with other geminiviruses may occur.

Source: Paplomatas, E.J.; Patel, V.P.; Hou, Y.M.; Noueiry, A.O., Gilbertson, R.L. (1994) Molecular characterization of a new sap-transmissible bipartite genome geminivirus infecting tomatoes in Mexico.
Phytopathology, 84 (10), 1215-1224.

Additional key words: new pest.

95/044 **XYLEFA...**First report of *Xylella fastidiosa* on *Quercus virginiana*

Bacterial leaf scorch, caused by *Xylella fastidiosa* sensu lato (EPPO A1 quarantine pest) has been reported in *Quercus falcata*, *Q. laurifolia* and *Q. nigra* in Florida (US) in 1988. In autumn 1992, decline, marginal leaf necrosis and branch dieback were observed on *Q. virginiana* in southwest Florida and *Xylella fastidiosa* was isolated from the diseased trees. In autumn 1993, other symptomatic *Q. virginiana* trees were found and tested positive for *X. fastidiosa* by ELISA and PCR. This is the first report of *X. fastidiosa* on *Q. virginiana*. Note that EPPO is mainly concerned by this disease on grapevine and peach. The quarantine risk of *X. fastidiosa* on other hosts has to be further evaluated, as these hosts may present a certain risk.

Source: McGovern, R.J. (1994) Association of *Xylella fastidiosa* with leaf scorch and decline of live oak in Florida.
Plant Disease, 78 (9), p 924.

Additional key words: new host plant.

95/045 **VITEVI...EPPO Distribution List for *Viteus vitifoliae***

As additional information has been provided by several countries during the validation of geographical data and by further reading of Galet (1982), the distribution list for *Viteus vitifoliae* can be modified as follows.

EPPO Distribution List: *Viteus vitifoliae*

V. vitifoliae is native to North America and was introduced into Europe in the latter part of the 19th century. It has continued to spread throughout the 20th century.

EPPO region: Algeria (potential EPPO country), Austria, Bosnia (potential EPPO country), Bulgaria, Croatia, Cyprus (unconfirmed), Czech Republic, France (including Corsica), Germany, Greece (but not in Crete), Hungary, Israel, Italy (including Sicilia and Sardegna), Lebanon (potential EPPO country), Luxembourg, Macedonia (potential EPPO country), Malta, Moldova, Morocco, Portugal (including Azores and Madeira), Romania, Russia (locally: Black Sea coast), Slovak Republic, Slovenia, Spain (including Islas Baleares but not Islas Canarias), Switzerland, Syria (potential EPPO country), Tunisia, Turkey, UK (England; distribution very restricted), Ukraine (right bank of Dniepr), Yugoslavia (Serbia). It was found in the past in Poland but did not establish.

Asia: Armenia, Azerbaijan, China (Liaoning, Shandong), Cyprus (unconfirmed), Georgia, India (Jammu, Kashmir), Indonesia (unconfirmed), Israel, Japan, Jordan, Korea Democratic People's Republic, Korea Republic, Lebanon, Syria, Taiwan (unconfirmed), Turkey.

Africa: Algeria, Libya (unconfirmed), Morocco, South Africa, Tunisia, Zimbabwe.

North America: Bermuda, Canada (British Columbia, Manitoba, Ontario), Mexico (locally, but unconfirmed), USA (Arizona, California, Connecticut, New Mexico, New York, Ohio, Pennsylvania, Texas, Washington).

Central and South America: Argentina, Bolivia, Brazil (Bahia, Minas Gerais, Paraná, Pernambuco, Rio de Janeiro, Rio Grande do Sul, Santa Caterina, Sao Paulo), Colombia, Panama, Peru, Uruguay, Venezuela.

Oceania: Australia (New South Wales, Queensland, South Australia, Victoria), New Zealand (North Island, northern South Island).

This distribution list replaces all previous published EPPO Distribution Lists on *Viteus vitifoliae* !

Source: **EPPO Secretariat, 1995-01.**
Galet, P. (1982) Phylloxera In: Les maladies et les parasites de la vigne, Montpellier, France, 1059-1313.

95/046 NO...Reorganization of crop research institutions in Norway

The EPPO Secretariat has recently been informed that the Norwegian Plant Protection Institute and the Norwegian State Agricultural Research Stations are now merged into one institution (from 1995-01-01), the Norwegian Crop Research Institute ('Planteforsk'). It will be a scientific institution for applied plant research and plant protection for agriculture and horticulture, and will be composed of 6 research centres with substations and 4 service/environmental centres, situated in various parts of the country.

The Centre for Plant Protection, located in Ås, will be responsible for all research activities related to plant protection:

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Source: **EPPO Secretariat, 1994-12.**

95/047 **CONFERENCE...IOBC International Conference on "Technology transfer in biological control from research to practice"**

An IOBC International Conference on "Technology transfer in biological control from research to practice" will be held in Montpellier (FR) in 1996-09-09/11. This conference will be devoted to the various aspects of biological control and IPM. Its objectives are to illustrate the effectiveness of biological control and the development of IMP programmes, to identify major problems in implementing biological control, to promote cooperation between scientists and to provide a forum for researchers, extension services, industry and policy makers.

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Source: **EPPO Secretariat, 1995-01.**