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APPEARANCE OF *BARLEY YELLOW DWARF VIRUS* IN VOJVODINA (YUGOSLAVIA)

by

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Summary

In the spring of 1990, first large-scale break out of yellow dwarfness were observed on early-sown winter barley and wheat in Vojvodina (Yugoslavia).

The causal agens of the diseases was identified as *BARLEY YELLOW DWARF VIRUS* on the basis of the ALISA test und a successful transmission of the virus by *SITOBION (=MACROSIPHUM) AVENAE* (Fabricius) a aphids from infected barley and wheat plants to healtly barley, Wheat, oat, corn and sorghum plants.

The distribution of the disease in Vojvodina was estimated by sampling young barley and wheats in a large number of locations and analyzing them by the ELISA test. Thanks to favorable wheathe conditions in the fall of 1989, the early-sown barley and wheat plots had a quick emergence which allowed certain aphid species (vectors of the virus) to provoke a largescale infection of young plants. The plots sown at later dates either avoided the infection altogether or sufferen a weak attack.

In addition to *BARLEY YELLOW DWARF VIRUS, BROME MOSAIC VIRUS* and *WHEAT STREAK MOSAIC VIRUS* have been identifiend in several barley and wheat sampels.

Zaštita bilja, Vol. 41 (3), br. 193: 251—257 (1990), Beograd

Dragica Ivanović
Jelena Lević
Viktorija Penčić
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Beograd—Zemun Original scientific paper

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Original scientific paper

FACTORS INFLUENCING EPIPHYTOSIS OF MAIZE VIRUS DISEASES IN YUGOSLAVIA

Research results of *Maize Dwarf Mosaic Virus (MDMV)* in the Corn Belt of Yugoslavia have shown that this disease has been expanding since 1985.

Characteristic symptoms of *MDMV* disease have been identified as well as red-purple stripes on lower leaves on some genotypes (B73), for the last two years. These symptoms appear separately or in combination with symptoms of *MDMV*. Symptomatology of redpurple stripes of leaves, as well as the demonstrated infection of diseased plants, imply the probability of separate or mixed infection of *MDMV* and *Barley Yellow Dwarf Virus (BYDV)*.

Introduction

Up to now studies of intensity of maize virus diseases under conditions of natural infection indicate significant differences. According to Tošić and Mišović (1967), Jovićević et al. (1972), Stakić and Savić (1974/75) and Tošić et al. (1979) it was 25.5%, 3.5%, 10.0% and 43.4—19.9%, respectively. Ivanović points out, by screening of many field crops throughout Yugoslavia, in 1986. that 61,3% of the plants are naturally infected with the virus (unpublished). Regarding mass spreading of this disease on maize in the last few years (mid '80's) selection research of maize connected with the virus started at the Maize Research Institute »Zemun Polje«.

Mechanically inoculated test plants were grown separately in another growth chamber. Verifying the reaction of the test plants after inoculation was based only on expressed symptoms.

SUGARBEET RHIZOMANIA IN MAČVA REGION

by

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Summary

By surveying and investigations done in 1989 it was shown that sugarbeet rhizomania is present in Mačva region. The presence of the disease in mentioned region was confirmed by symptoms on diseased sugarbeet plants as well as by Dot-blot serological analysis. This is first report of sugarbeet rhizomania presence in Mačva.

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(Primljeno 5. 11. 1990)

THE ROLE OF SOYBEAN SEED IN THE EPIDEMIOLOGY OF *DIAPORTHE PHASEOLORUM VAR. CAULIVORA*

by

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Summary

Diaporthe phaseolorum var. caulivora is important parasite of soybean in Yugoslavia. The epidemiology of the fungus, especially seed transmission is not completly clear.

Diaporthe phaseolorum var. caulivora can infect the soybean seed. The seed could be infected only when the pods of soybean are form. The pathogen can not reach the seed through stalk during the process of feeling the pods, but the infection occurs through pods by airborne ascospores.

The infection established in seed did not significantly effect the germination, but did influence the vigor, what we suppose was the consequence of poor grain feeling of the diseased plants.

The presence of the pathogenic fungus in the seed could cause seed rot and seedlings decay. When planted the inefcted seeds did not yield the plants with symptoms.

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(Primljeno 20. 08. 1990)

PHOMOPSIS — THE CAUSAL AGENT OF A NEW DISEASE OF APRICOTS

by

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Summary

Phomopsis perniciosa Growe was isolated in 1988—89 at Čačak (western Serbia) from the diseased branch and fruit tissues of apricots with apoplexy symptoms.

The isolates were used to inoculate the fruits which had been previously wounded and the unwounded fruits. The wounded fruits developed symptoms and reproductive organs of the fungus (molds and pycnidia). After 10—15 days cankers appeared on inoculated branches and pycnidia developed within several weeks. The dieback of branches occurred after 10 months.

Apricot, peach and walnut showed susceptibility to this isolate after artificial inoculation, whereas vine and blackberry were not affected.

The pycnidia are hemispherical or spherical-conical, black, surrounded at the base by black, torula-like hyphae.

α-conidia are elongated, spindle-shaped, rounded at the ends, colourless, unicellular, 6.8—9.1 × 1—1.5 μm. The conidiophores are 16—21 μm in lenght.

β-conidia are filiform, thin, colourless, curled at one end, 23—32 × × 1—1.7 μm.

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(Primljeno 20. 06,. 1990)

DIE WIRKUNG DES SCHWEFELDIOXYDS AUF *ALTERNARIA ALTERNATA* (FR.) KEISSL., *FUSARIUM MONILIFORME* SHELD. VAR. *CONGLUTINANS* WR. ET RG. UND *TRICHOTHECIUM ROSEUM* (BULL.) LK.

von

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Zusammenfassung

Nach der Methode von Härtel und Miklau (1971) zur Herstellung definierter niedriger Schwefeldioxydspannungen wurden den im Titel genannten Pilzen, die auf Kartoffelagar bei 10 und 20°C gezüchtet wurden, letale Konzentrationen des SO_2 in der Luft für Hyphenwachstum und Sporenkeimung untersucht. Hierbei wurde festgestellt:

— Gegenüber SO_2 hat *Alternaria alternata* die grösste, *Fusarium moniliforme* var. *conglutinans* mitllere, *Trichothecium roseum* aber die geringste Resistenz.

— Letale Konzentrationen von SO_2 in der umgebenden Luft war für das Wachstum der Hyphen von *Alternaria alternata* bei 10°C zwischen 71 und 159, bei 20°C zwischen 52 und 79 mg SO_2/m^3; bei *Fusarium moniliforme* var. *subglutinans* bei 10°C zvischen 36 und 54, bei 20°C zwischen 45 und 78 mg SO_2/m^3, bei *Trichothecium roseum* bei beiden Temperaturen zvischen 27,5 und 50,5 mg SO_2/m^3.

— Letale Konzentration von SO_2 für nasse Sporenkeimung waren bei *Alternaria alternata* und *Fusarium moniliforme* var. *conglutinans* ausserordentlich hoch, wobei der zweite Pilz empfindlicher war.

— In der Diskussion wird hervorgehoben, dass SO_2 in den industrielen Exchalationen zur Verminderung des Krankheitsauftretens nicht unmittelbar bedeutend sein kann, da die letalen Konzentrationen für Sporenkeimung und Hyphenwachstum wesentlich höher liegen als dieselben für grüne Wirtspflanzen.

STRUCTURE AND DYNAMIC OF THE *HETEROPTERA* POPULATION ON ASHES DEPOTS IN RECULTIVATION IN THE REGION OF KOSTOLAC

by

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Summary

On the ashes depots in Serbia significant efforts have been made in order to turn back these area to their origin purpose — plant production. This mechanical substrate is gradually changed and becomes more and more stabile by growing vegetables and fruits. In such a way it appears to be a specific biotop where cenotical completes of a number of organisms including Arthropoda are formed and get stable.

This paper deals with the structure and dynamics of the *Heteroptera* population on ashes depot in recultivation with alfalfa planted in 1984 and 1986, i.e. poplar trees planted in 1981 and a mixture of poplar and black locust planted in 1976.

The study of the structure ond quantitative relations of the *Heteroptera* populations on the fields covered with the alfalfa, poplar trees and mixed wood indicates 49 bedbug species of 10 families. The greatest number of representatives belong to the Miridae family followed by the families mentioned below: Pentatomidae, Lygacidae, Phipalidae and Nabidae.

More species and specimens are reported for the fields under recultivation than for the wood communities which suggests the openness of the community, the bioproduction and this culture as suitable host. The heterogenity of the Heteroptera population is proved by a very few species found in 4 localities.

In these initial Hetroptera communities a new species of the fauna of Serbia has been identified — Oncotylus setulosus of the Miridae family.

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(Primljeno 20. 10. 1990.)

ACTIVITY OF CHLORPIRIPHOS-METHIL AGAINST SOME PEST OF FROOT AND VEGETABLES AND AGAINST BENEFICIAL ORGANISAMS

by

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Summary

In 1986., 1987. and 1988. the effeciency of chlorpiriphos-methil (Reldan 2E) was investigated in field conditions and laboratory conditions against *Psylla piri* L.. *Leucoptera scitella* Zell., *Adoxophyes orana* F.v.R., *Carpocapsa pomonella* L., *Trialeurodes vaporariorum* W., *Tetranychus urticae* Koch., *Amblyseius finlanandicus* O. and *Encarsia formosa* G.

Our investigation of chlorpiriphos-methil were carried out the heigh efficiency to *P. piri* (93—100%) for 16 days, *L. scitella* (95—97%) for 21 days, *A. orana* (90—100%), *C. pomonella* (95%), *A. finlandicus* (96%) and *E. formosa* (100%). Middle efficiency to *T. urticae* (89%) and *T. vaporariorum* (88%). Lower efficiency to *T. urticae* (stage eggs 30%), *T. vaporariorum* (stage larvae 55%), *A. finlandicus* (stage eggs 33—38%) and *E. formosa* (in pupe of *T. vaporariorum* 40—53%).

Chlorpiriphos-methil is insecticide-acaricide with heigh larvicidal and adulticidal activity and lover ovicidal activity.

THE INFLUENCE OF SOME HERBYCIDES ON TOTAL SOIL MICROFLORA AND TUBEROUS SOYBEAN BACTERIAS *(RHIZOBIUM JAPONICA)*

by

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Summary

Investigations have included eght herbycides combinations, mostly used in soybean production, and they were carried out in the year 1985. The samples were taken two times (summer and autumn), from two depths, 0—10 cm and 10—20 cm.

All these herbycides combinations had an depressive action, in summer condition, on the total soil microflora from 15% Alaklor + Afalon to 75% — Stomp + Afalon.

Meanwhile, in autumn samples this picture was changed so — Alaklor + Afalon increase their deperession up to 69%, the others dealay deperession, and some of them in autumn conditions show an positive action on total microflora from 5% to 25%.

All herbycides used in these investigations have acted on the number increase of tuberous on soybean root, with different intensity, from 12% to 437%.

From the standpoint of their influence on soybean all of them *have* acted depressively on the height of overground mass, from 10—40%. The action on the root system lenght was different, some of them deperssively 5—14%, and the others stimulatively from 6—44%.

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(Primljeno 5. 09. 1990.).

NEMATODES OF VEGETABLE CROPS FROM KOSOVSKO POMORAVLJE

by

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Summary

The following phytoparasitic nematodes, found under vegetable crops (onion, cabagge, tomato, paprika; in crop rotation by potato), are reported from Kosovsko Pomoravlje in South-eastern Serbia: *Aphelenchoides subtenuis, Ditylenchus dipsaci, Ditylenchus radicicola, Heterodera carotae, H. cruciferae, H. goettingiana, Longidorus* spp., *Paratylenchus hamatus, Pratylenchus* spp., *Rotylenchus fallorobustas, Xiphinema vuittenezi* and others.

»Comet«, »Columbia«, »Willamette«, »Eroica«), ki izvirajo s hmeljnega območja Zvezne države Oregon *(ZDA)*. Kaže, da virus ni patogen za hmelj evropskega izvora.

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AMERICAN HOP LATENT VIRUS *(AHLV) IN SLOVENE HOPS (HUMULUS LUPULUS L.)*

by

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Summary

Varieties of hops *(Humulus lupulus* L.) grown in Slovenia (Yugoslavia), wild hops from the natural habitats from Yugoslavia and some varieties from the breeding collection garden were tested by ELISA. All tested plants were free of *AHLV*, except those introduced from USA (Comet, Cascade, Columbia, Willamette, Eroica). They are isolated in breeding collection garden. Spread of the virus to slovene seedlings could not be detected.