

مقاومة مرض تبقع الأوراق وقصبات الفوموبسس فى العنب

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CONTROL OF PHOMOPSIS CANE AND LEAF SPOT OF GRAPEVINE

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ABSTRACT: *Phomopsis cane and leaf spot of grapes is an economically important disease of grapes in many regions of the world. Efficacy of application of antioxidants, calcium salts and fungicides on control of phomopsis cane and leaf spot that caused by Phomopsis viticola, was examined under greenhouse conditions during 2010 growing season in Belco Egypte Company. Antioxidants were prepared and applied by using concentration 200 ppm, calcium salts were applied by using concentration 400 ppm and fungicide were applied by using concentration of recommended dose of the product company. All components were applied before and after artificial infection. All the tested antioxidants reduced the disease significantly, but ascorbic acid was gave the best result. The tested calcium salts decreased the disease significantly, but calcium phosphate was the best one. All the tested fungicides reduced significantly disease severity, generally the fungicide Filint gave the best result, followed by Topas and Punch*

Key words: *Vitis vinifera , Phomopsis viticola, antioxidants, calcium salts and fungicides.*

STUDIES ON MONOSPORASCUS CANNONBALLUS THE CAUSAL ORGANISM OF MONOSPORASCUS ROOT ROT/VINE DECLINE DISEASE

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ABSTRACT:

Monosporascus root rot/vine decline disease of cucurbit plants caused by *Monosporascus cannonballus* (Pollack and Uecker) is very important disease which severely affects roots causing large losses in crop. The pathogenicity tests of *M. cannonballus* to twenty nine cucurbit and six noncucurbit species and cultivars were evaluated in greenhouse. Percentage of infection was observed in all cucurbit species at frequencies ranged from 6.67-96.67% and *M. cannonballus* was reisolated from 20-100% of the plants. Rating *Monosporascus* root rot/vine decline of cucurbit plants, from the most tolerant to the most susceptible were: loofah, pumpkin, snake cucumber, squash, cucumber, cantaloupe and watermelon respectively, Noncucurbit plants included eggplant, tomato, wheat, barley, pea and maize resulted percentage of infection 30.00, 7.71, 38.89, 34.44, 53.33 and 13.13% respectively, while *M. cannonballus* was reisolated from these noncucurbit plants as 71.11, 0.0, 18.79, 17.79, 63.34 and 33.33%, respectively

Key words: *Monosporascus cannonballus*, *Monosporascus* root rot/vine decline, cucurbit, noncucurbit and host rang

***INTERACTION EFFECT BETWEEN FUSARIUM OXYSPORUM,
RHIZOCTONIA SOLANI AND MELOIDOGYNE SPP. ON POTATO PLANTS***

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ABSTRACT:

The effect of three pathogenic organisms, *Fusarium oxysporum*, *Rhizoctonia solani* and mixed group of *Meloidogyne* spp. (*M. javanica* and *M. incognita*) separately or in a combination on potato plant cv. Nicola was studied under greenhouse conditions. The combined infection with mixed *Meloidogyne* spp. plus tested fungi resulted in significant reduction in all nematode parameters, No. of J2 / soil, No. of developmental stages, No. of Females, No. of egg masses and reproduction factor compared with nematode treatment only. Disease severity of *Fusarium* wilt was greatly increased when mixed *Meloidogyne* spp. and *R. solani* were combined with *F. oxysporum* compared with wilt fungus treatment only. However, significant increase was observed on black scurf, stem canker diseases and infected tuber when mixed *Meloidogyne* spp. and *F. oxysporum* were combined with *R. solani* compared with *R. solani* treatment only. The interaction between the tested pathogenic organisms was more effective on reduction plant growth parameters reduction than each of this organisms separately.

Key words: *Fusarium oxysporum*, *Rhizoctonia solani*, *Meloidogyne* spp., *Fusarium* wilt, black scurf, stem canker, p

AUGMENTATION OF ANTAGONISTIC EFFECT OF SOME BIOAGENTS AGAINST FUNGI CAUSING PEPPER FRUIT ROT BY GAMMA RADIATION

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ABSTRACT:

The effect of some biological control agents on the growth of seven isolates of the most frequent isolated pathogens from fruit rot of pepper, i.e. 3 isolates of *Fusarium*, 2 isolates of *Alternaria* and 2 isolates of *Aspergillus* were studied under laboratory conditions. Eight isolates of *Trichoderma* spp and one isolate of *Bacillus subtilis* were used for determination of the antagonistic activities against fungal pathogens in dual culture laboratory conditions. Three parameters were measured for antagonistic activities, i.e. linear growth and reduction of fungal growth under stress of bioagent, as well as over growth and/or inhibition zone. *B. subtilis*, *Trichoderma hamatum*, *T. harzianum* and *T. viride* were found to be the most potent biocontrol agents against most of the pathogens. The antagonistic effect was increased after irradiation of *B. subtilis* to radiation dose of 1 kGy and irradiation of *Trichoderma* sp. to a dose of 0.2 kGy.

Key words: Biocontrol Agents, Pepper, Fruit Rot, Radiation.

TOMATO FUSARIUM WILT DISEASE

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ABSTRACT:

Tomato plants are widely grown in Egypt. They can be grown in different seasons throughout the year round in open fields and in protected cultivations. Tomato is considered one of the major vegetable crops for local consumption and industry. *Fusarium oxysporum* f.sp. *lycopersici* (Sacc) Snyder and Hansen. This fungus can infect tomato plants at all growth stages. The fungus grows in the vascular bundles and inhibits water flow causing wilting, ultimately leading to plant death. Isolation and identification of the causal pathogen were done using samples collected from different tomato growing areas from nine governorates in Egypt. 21 *F. oxysporum* f.sp. *lycopersici* isolates were used in pathogenicity tests and revealed as pathogenic to tomato plants and caused the same identical symptoms with various degrees of disease. Different nitrogen (N), phosphate (P) and potassium (K) fertilizers in combinations (NPK) on tomato wilt disease severity percentage. Effect of soil solarization, as a physical mean, on the control of tomato wilt disease was studied in black pots. This trial was done during hot summer days. Biological control was carried out under greenhouse conditions. The pots were artificially infested with *T.harzianum* isolate No.2, two weeks before sowing at the rate of 3% of the soil weight (w/w). The grown cultures of Actinomycetes (gray group) were diluted with sterile water to give a cell concentration of 10 cell/ml and it was added to the soil at the rate of 75 ml/pot. Antioxidants i.e., Ascorbic acid, Hydroquinone, Salicylic acid and Sodium benzoate at different rates of concentrations (12.5, 25, 50, 100, 200 ppm) were used as Seed soaking and Soil drenching by irrigated the pots five times with antioxidants solutions two weeks intervals. The effect of some fungicides i.e., Tashgareen, Moncut and Topsin M-70 were applied at the recommended dose as seed dressing with the rate of 3g/kg seeds, also as soil drenching at the rate of 250g/ 100 liter, respectively. Integrated control was done using the successfully individual control treatments in the above trials of control.

Key words: Tomato, Fusarium wilt, Disease control

FREQUENCY OF VERULENCE AND VIRULENCE FORMULA OF WHEAT STRIPE RUST RACES IDENTIFIED IN EGYPT

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ABSTRACT:

Wheat stripe rust is one of the major diseases on wheat in Egypt which appears annually in virulence of different frequencies. In this investigation, stripe rust samples were collected from different location of lower Egypt during two season (2005/06-2006/07). Three single pustules method of isolation was followed for each sample. Rust data were recorded as infection types and virulence frequencies were determined against 22 Yr genes, in monogenic lines and some Egyptian genotypes. Virulence frequencies were very high against YrCV, Yr (3), Yr SU, Yr (6), Yr (7), Yr 2, Yr 7, Yr 8, Yr 9, Yr 27, Yr 18, Yr 6 and Yr A, while the lowest frequencies were found against Yr1, Yr 5, Yr 10, Yr 15, Yr SD, Yr 3, Yr SP, Yr 17 and Yr 4. The cvs. Sakha 61, Sakha 94, Gemmeiza 9 and Giza 168 were the least frequencies. The physiologic races were identified according to their reaction on the 22 Yr,s and virulence formula (virulence / avirulence) was recorded for each race. Thirteen physiologic races of *Puccinia striiformis* were found. Race 102E22 was most frequent (13.33 %) followed by races 238E0 and 238E182(10%). The least ones in the regard were races 198E144 and 2E128 (3.33%).

Key words: Virulence, Frequency, identified, stripe rust, Races, Monogenic