ФИТОПАТОГЕНИ БАКТЕРИИ

кај пиперката

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Штип,2001

УНИВЕРЗИТЕТ "СВ. КИРИЛ И МЕТОДИЈ" - СКОПЈЕ
ЈНУ ИНСТИТУТ ЗА ЈУЖНИ ЗЕМЈОДЕЛСКИ КУЛТУРИ
СТРУМИЦА

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ФИТОПАТОГЕНИ БАКТЕРИИ КАЈ ПИПЕРКАТА ВО МАКЕДОНИЈА

Штип, 2001

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ТЕХНИЧКО УРЕДУВАЊЕ И КОРИЦА:
Славе Димитров

CIP – Каталогизација во публикација Народна библиотека "Гоце Делчев", Штип
623.3.633.842
МИТРЕВ. Саша
Фитопатогени бактерии кај пиперката / Саша Митрев.–ИЗК. Струмица, 2001. стр 90. илустр. ; 21 см.

ISBN 9989-9672-1-0

PHYTOPATHOGENIC BACTERIA ON PEPPER IN MACEDONIA

ABSTRACT

The characteristics of phythopathogenic bacteria which were attacked the papper in Macedonia were examined in this study. On the basis of observed symptoms and laboratories investigations on this plant they were found followed bacteria: ***P.s.*** pv. ***syringae***, ***X.c.*** pv. ***vesicatoria*** and ***E.c.*** subsp. ***carotovora***.

The losses caused by bacteria in Macedonia are different every year, and they are estimated about 10-20%, but some year, for example the summer 1995 the damages were higher. As a result of favorable climatic conditions (warm and rainy summer) appearance of ***X.c.*** pv. ***vesicatoria*** was extremely high and the looses were also significant.

Morphological, pathogenical, biochemical, physiological, nutritional and serological properties of 34 domestic and 7 control strains taken from USA and SRJ were checked in our investigations. All these properties of our strains were completely same compared with characteristics of control strains, without any significant differences.

Bacterial strains of ***X.c.*** pv. ***vesicatoria*** belonged to races: P0 and P2. Strains were identified to race based on the response to infection of a set of near-isogeneic pepper lines derived from and including Early Californian Wonder (ECW): ECW-10R, ECW-20R and ECW-30R containing the resistance genes bs1, Bs1, Bs2 and Bs3, respectively.

Strains of ***P.s.*** pv. ***syringae*** obtained from diseased pepper sidling appeared some differences from control strains, in the way of utility of L(+)tartarat and gelatin. Those differences were essential for further investigations of DNA, because we wanted to confirmed genome differences or resemblance between our strains and control strains.

Two domestic strains (P-150 and P-153) and seven controls (***P.s.*** pv. ***syringae, P.s.*** pv. ***savastanoi, P.s.*** pv. ***tomato, P.s.*** pv. ***porri, P.s.*** pv. ***tagetis, P.s.*** pv. ***caricapapaye*** and ***P. viridiflava***) were used for DNA/DNA hybridization. Native DNA was labeled by nick translation with tritium-labeled nucleotides. S1 nuclease-trichloracetic acid procedure was used for the hybridization experiments (*Crosa* et al., 1973). The reassociation temperature was 70°C. Our strains belonged to genomospecies 1 of bacteria ***P.s.*** pv. ***syringae***, from nine specific groups appointed from Gardan et al. (1995).

Key words: pepper, bacteria, ***Pseudomonas***, ***Xanthomonas***, ***Erwinia***, isolation, identification, morphological, pathogenical, biochemical, physiological, nutritional, serological and genomic characteristics.