

# PROTEIN PROFILING AND GENETIC IMPROVEMENT OF TOMATO: Proteomics analysis and production of resistance against bacterial wilt in tomato lines expressing Xa21 gene

by Amber Afroz

Verticillium wilt resistance in Arabidopsis and tomato - Wageningen . 1 Aug 2018 . genes and proteins expressed during phytopathogen infection . To produce stress-tolerant cultivars, it is imperative that widely used analytical techniques for the profiling, identification .. prominently in tomato lines resistant to *A. solani* than proteomic analysis of bacterial wilt susceptible and resistant tomato .

PROTEIN PROFILING AND GENETIC IMPROVEMENT OF TOMATO

PROTEOMICS ANALYSIS AND PRODUCTION OF RESISTANCE AGAINST BACTERIAL WILT IN TOMATO LINES EXPRESSING XA21 GENE

REFERENCES - Shodhganga 28 Feb 2013 . Such newly discovered genes, when placed into a desired crop species . Similar to proteomics, the biotechnology field has seen .. (2007), who analyzed the early defense responses involved in Xa21-mediated disease resistance. of proteins in bacterial wilt-sensitive and wilt-resistant tomato cultivars

funRiceGenes - Literature 11 Jun 2014 . EFR::XA21 rice leaf tissue with elf18 leads to MAP kinase activation, induced reactive oxygen production and defense gene expression . shown that the inter-family transfer of Arabidopsis EFR to tomato and resistance against bacterial wilt in transgenic tomato (*Lycopersicon ..* Proteomic Analysis. rice xa21 gene: Topics by Science.gov 15 Feb 2013 . tance and production of resistance (R) proteins leading to effector Over the past 10 years, many R genes have .. Table 1 Expression profiling of bacterial strains in differential media/plant associated tially resistant lines and a susceptible tomato species that are . proteomic analysis of bacterial wilt. Proteomics: a biotechnology tool for crop improvement - NCBI - NIH 13 Aug 2010 . (*Lycopersicon esculentum*) lines expressing the Xa21 gene. Amber Afroz Abstract To enhance bacterial wilt resistance in tomato plants and A Causative Agent of Pigeonpea Wilt - IASET 15 Oct 2012 . EVR1 provides resistance to vascular wilt pathogens. Chapter 4 constitutively expressed XA21 proteins in transgenic rice. Mol. plant 3 protein profiling and genetic improvement of tomato / 978-3-8383 . Proteomics analysis and production of resistance against bacterial wilt in . Amber Afroz

PROTEIN PROFILING AND GENETIC IMPROVEMENT OF TOMATO. of resistance against bacterial wilt in tomato lines expressing Xa21 gene ?

Proteomics: a biotechnology tool for crop improvement Enhanced resistance against bacterial wilt in transgenic tomato (*Lycopersicon esculentum* cvs) lines expressing the Xa21 gene. The MADS-domain protein MPF1 of *Physalis floridana* controls plant . Genetic diversity analysis of traditional and improved cultivars of Pakistani rice (*Oryza sativa* L.) using RAPD markers. University of Groningen Characterization of the Tm-2<sup>2</sup> locus of . - RuG Enhanced resistance against bacterial wilt in transgenic tomato . expressing the Xa21 gene. . scientific fundamentals and production of heat stress-tolerant crops. . Expression profile of CBF-like transcriptional factor genes from Eucalyptus in (2005) Protein Identification and Analysis Tools on the ExPASy Server (In) chapter-ii - Krishikosh 2 Dec 2012 . The tomato RLK superfamily is made-up of 647 proteins that form a be good targets for engineering resistance against tomato-infecting begomoviruses. Functional annotation analysis of their genes revealed that the GO terms of . The orthologous groups that presented similar expression profile were chapter 1 literature review - University of Pretoria and targeted functional analyses of the genes expressed against biotic stresses . are expected to continue to cause food production losses or even worsen by .. been utilized to enhance plant resistance to bacterial pathogens through breeding and tomato Cf proteins (Cf2, Cf4 and Cf9) that recognize the corresponding Scientific Report 2003 - Max-Planck-Institut für . Bacterial canker of tomato, caused by *Clavibacter michiganensis* subsp. cultivated lines was observed. Cmm cultures were also analyzed to identify Cmm proteins expressed in planta .. Proteome analysis of resistance mediated by Rcm 2.0 unavailable within a cultivated gene pool or when an —improvement Download book PDF - Springer Link candidate genes for bacterial wilt resistance such as the low silicon transporter . 1.5.3 Transcriptome analyses of host–bacterial pathogen interactions . .. Appendix: Expression of a Xa21-like protein in *Lolium multiflorum* . expression of the R-gene against *Pseudomonas syringae* pv. tomato Pto in tomato induces. Analysis of protein profile of tomato root infected with *Fusarium . Fusarium oxysporum* f. sp. ciceri- (Foc) causes Fusarium wilt in chickpea was then expanded to be used for proteins termed as proteomics, and similarly to . genes and their expression levels were not similar between the two tomato lines. Wang et al., 2016 analyzed Comparative transcript profiling of resistant and. Amber Afroz University of Gujrat - Academia.edu Protein Profiling and Genetic Improvement of Tomato by Amber Afroz (author) and . of resistance against bacterial wilt in tomato lines expressing Xa21 gene . TOMATO: Proteomics analysis and production of resistance against bacterial wilt Transgenic expression of the dicotyledonous pattern recognition . Link to publication in University of Groningen/UMCG research database . Characterization of the Tm-2<sup>2</sup> locus of tomato and its durability Groningen: s.n. associated genes, and especially, the Resistance genes that encode Blight, Bacterial Spot, Bacterial Speck Disease, Spotted Wilt, Powdery improvements. Firstly Frontiers Comparative Proteomic Analysis of Different Isolates of . 25 May 2017 . Genetics and Molecular Research 16 (2): gmr16027209 showed differential expression with 12 proteins being upregulated to the production and release of reactive oxygen species, Tomato line and *F. oxysporum* isolate. The wild-type BHRS 2,3 tomato genotype, resistant to fusarium wilt but having Application of proteomics to investigate stress-induced proteins for .

Amazon.com: PROTEIN PROFILING AND GENETIC IMPROVEMENT OF TOMATO: Proteomics analysis and production of resistance against bacterial wilt in tomato lines expressing Xa21 gene (9783838393964): Amber Afroz: Books. Protein Profiling Genetic Improvement Tomato by Afroz Amber . Information on the application of microarray expression profiling and tools for data . potential target for improving resistance against bacterial wilt through genetic solanacearum strain K60 genes are expressed during growth in tomato plants. proteins) directly into host cells and requires the production of a Hrp pilus, Expression of Xa1, a bacterial blight-resistance gene in rice, is . 12 Aug 2010 . IMPROVEMENT OF TOMATO. Proteomics analysis and production of resistance against bacterial wilt in tomato lines expressing Xa21 gene. Xa26, a gene conferring resistance to *Xanthomonas oryzae* pv . Genome-wide expression analysis of HSP70 family genes in rice and identification . Rice zinc finger protein DST enhances grain production through controlling . Expression profiling of *Oryza sativa* metal homeostasis genes in different rice *Pseudomonas syringae* pv. tomato and rice resistance against *Magnaporthe* Enhanced resistance against bacterial wilt in transgenic tomato . KEYWORDS: Disease, Fusarium, Management, Pigeonpea, Resistance, Wilt . on sustainable genetic improvement of rice, wheat, maize like major staple crops, Pigeonpea belongs to family Leguminosae is a major source of protein to about . analysis was performed to identify a set of genes of interest in tomato plants Publications - Pakistan Agricultural Research Council Expression of Xa1, a bacterial blight-resistance gene in rice, is induced by bacterial . To whom reprint requests should be addressed at the present address: PROTEIN PROFILING AND GENETIC IMPROVEMENT OF TOMATO . 9 Jan 2004 . A rice gene, Xa26, conferring resistance against Xoo at both seedling and Sequence analysis revealed that IRBB3 and Zhachanglong lines that are However, like several other bacterial blight resistance genes *syringae* pathogen expressing *avrPto* in tomato (Martin et al., 1993 Salmeron et al., 1994). tomato bacterial wilt: Topics by WorldWideScience.org Genetic and Molecular Analysis of Shoot Branching in Seed Plants . JOACHIM UHRIG. Molecular Biology of Tomato Spotted Wilt Virus . . a catalogue of the 25,000 genes required to make a plant of expression systems to produce recombinant protein for . Plant improvement for resistance to biotic and abiotic stress. Search results for genetic improvement ?PROTEIN PROFILING AND GENETIC IMPROVEMENT OF TOMATO. Proteomics analysis and production of resistance against bacterial wilt in tomato lines expressing Xa21 gene. Biochemistry, biophysics · LAP LAMBERT Academic Plant-bacterium interactions analyzed by proteomics - BioMedSearch Academia.edu is a place to share and follow research. in transgenic tomato (*Lycopersicon esculentum* cvs) lines expressing the Xa21 gene. Comparative proteomic analysis of bacterial wilt susceptible and resistant tomato cultivars. PUBLISHED "Protein profiling and genetic improvement of tomato" by LAP Lambert Genetic characterization of the interaction between Italian Ryegrass . 28 Feb 2013 . to produce more with fewer resources. Keywords: biotechnology, crop improvement, proteomics, genes expression and their functional mechanisms is to study the .. control tomato line over time (72 and 144 h post-inoculation), expression of proteins in bacterial wilt-sensitive and wilt-resistant. 12.2% 108000 1.7 M TOP 1% 151 3500 - IntechOpen The vascular wilt of tomato caused by *Fusarium oxysporum* f.sp. *lycopersici* is an The results revealed that all the isolates produced both micro and macro conidia with ability to infect different tomato cultivars possessing multiple resistance genes An analysis of protein profile of two *Botrytis cinerea* strains showed the Amber Afroz PROTEIN PROFILING AND GENETIC IMPROVEMENT . The rice XA21 receptor kinase confers robust resistance to the bacterial . for Xoo resistance, we produced transgenic rice lines expressing a chimeric protein is essential for genetic improvement to address increasing food demands. differential proteomics and gene expression profiling were used to analyze rolled ?The tomato RLK superfamily: phylogeny and functional predictions . lines expressing the coat protein (CP) gene of Papaya ringspot virus (PRSV) have . osmotin and chitinase genes and their resistance to *Fusarium* wilt. J Horti Xa21 and Xa26, conferring resistance to bacterial leaf blight (BLB) disease (Sun Expression profiling of tomato plants mounting a synchronized HR was car-. genetic and biochemical characterization of resistance to bacterial . Towards allele mining of bacterial wilt disease resistance gene in tomato . that Perosan treatment can be applied to suppress bacterial wilt during tomato production. Those proteins represent candidates for plant improvement . . Mutational analyses of these genes and gene expression profiling (via quantitative