



SHORT COMMUNICATION

Phytopathogenicity of avian mycoplasma *Mycoplasma gallisepticum* S6: Morphologic and ultracytostructural changes in plants infected with the vegetative forms and the viable but nonculturable forms of the bacterium

Vladislav M. Chernov^a, Olga A. Chernova^a, Alexey A. Mouzykantov^a, Anastasia A. Ponomareva^a, Maxim V. Trushin^{a,b,*}, Oleg V. Gorshkov^a, Tatyana N. Nesterova^a

^aKazan Institute of Biochemistry and Biophysics, Russian Academy of Sciences, Lobachevski 2/31, P.O. Box 30, 420111 Kazan, Russia

^bKazan State University, Department of Genetics, Kremlyovskaya, 18, 420008 Kazan, Russia

Received 2 June 2009; received in revised form 12 July 2009; accepted 15 July 2009

KEYWORDS

Mycoplasma gallisepticum S6;
Phytopathogenicity;
Vegetative forms;
Viable but nonculturable forms;
Protein expression

Abstract

The data obtained in this study proved that *Mycoplasma gallisepticum* S6 known as avian pathogen had a phytopathogenic potential. The vegetative forms and the viable but nonculturable (VBNC) forms of this mycoplasma could infect the plants via an assemblage of rootlets, invade different tissues, persist there and cause destructive events characteristic to phytomycomoses. In comparison with the vegetative forms, the VBNC forms induced more prominent destructive changes. This phenomenon might be connected to increasing expression of proteins responsible for virulence in the bacterial cells. The fact that *M. gallisepticum* S6 could demonstrate virulent features (infectivity, invasiveness, persistence and toxigenicity) in regard to plants seems to require a development of new ways for controlling phytomycomoses taking into account the probable presence of asymptomatic carriers of this bacterium.

© 2009 Elsevier GmbH. All rights reserved.

Introduction

At present, many plant diseases have been reported to be connected with mycoplasma infections,

*Corresponding author.

E-mail address: mtrushin@mail.ru (M.V. Trushin).