

## **ENHANCEMENT OF THE PLANT INNATE IMMUNITY AS A MEANS TO REDUCE SALMONELLA COLONIZATION IN PLANTS**

Christos T. Fotiadis<sup>1</sup>, Savvas Christodoulou<sup>1</sup>, George-John Nychas<sup>2</sup>, and Anastasia P. Tampakaki<sup>1</sup>

<sup>1</sup>Laboratory of General and Agricultural Microbiology, Department of Crop Science, Agricultural University of Athens, Athens, Greece

<sup>2</sup>Laboratory of Microbiology and Biotechnology of Foods, Department of Food Science and Human Nutrition, Agricultural University of Athens, Athens, Greece

*Salmonella enterica* serovars are known as causative agents of various human diseases such as typhoid fever, paratyphoid fever and salmonellosis. While most cases of salmonellosis are attributed to consumption of contaminated foods originated from animals, recent studies indicate that fresh produce is also a significant source of food-borne diseases. Indeed, innovative advances in plant-microbe interactions have shown that enteric pathogens are able to invade and survive in/on plants without causing disease symptoms. Accumulating data suggest that enteric bacteria interact actively with plants and the activation of plant basal defenses is thought to be the major factor that limits the growth of bacteria in/on the plant surfaces. Therefore, plants are thought to be alternative hosts for enteric pathogens.

The aim of the present study was to examine whether improvement of plant innate immunity is capable of restricting *Salmonella* colonization in plants. One way to enhance plant innate immunity is to pre-activate plant immune signaling pathways. Plants, through pattern-recognition receptors (PRRs), can recognize conserved microbial molecules, called PAMP/MAMPs (Pathogen- or Microbe-Associated Molecular Patterns) leading to PAMP-triggered immunity (PTI). Various PAMPs have been described as strengtheners of plant immunity providing thus a promising means of engineering plant resistance against pathogens. To this purpose, we examined whether potential PAMPs are capable of limiting *Salmonella* growth on plant surfaces either by exogenous application to tobacco leaves or by transient expression via *Agrobacterium*. Preliminary results showing the effectiveness of both methods in restricting *Salmonella* colonization will be presented.

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