Modulation of plant chemistry by rhizosphere bacteria

Jeon, J.

About the author and publications

About the author

Je-Seung Jeon was born on 25th of February 1984 in PyeongChang-gun, Republic of Korea. Growing up on a family farm in a rural area, he dreamed about being a farmer, and hence joined the Department of Applied Plant Science at Gangneung National University. During his bachelor degree, he fulfilled a military service for two years at the GOP (general outpost) where South Korea borders North Korea. After being discharged from the military in 2005, he realized the reality of becoming a farmer, and decided instead to continue his studies in the plant sciences. In line with this decision, in 2007 he started an internship program at the Gangneung Institute of Natural Products at the Korean Institute of Science and Technology (KIST), and this led to the start a Master program at the KIST and Gangneung-wonju National University in 2009. Here, he majored in natural product chemistry discovering new and known antioxidative phytochemicals in medicinal plants under the supervision of Dr. Byung-Hun Um, Dr. Chul Young Kim and Prof. Dr. Hakgi Kim. In 2012, he moved to Prof. Dr. Chul Young Kim's Pharmacognosy lab at the college of pharmacy at Hanyang University and worked as a researcher developing a massive isolation method of medicinal compounds from various herbal plants using liquid-liquid based platform including centrifugal partition chromatography (CPC). In 2014, he was awarded with a Korean government scholarship program supporting a PhD fellowship, which gave him an opportunity to study abroad. In 2015, he relocated to the Netherlands and started his doctoral research under the supervision of Prof. Dr. Jos Raaijmakers and Dr. Desalegn Etalo in the Microbial Ecology department at the Netherlands Institute of Ecology. Here, he focused on unearthing the modulation of phytochemicals by microbe-plant interaction and its mechanism together with bacterial traits that affect physio chemical properties of hosting plants. Apart from his experimental expertise, he has also developed in scientific infographic technique, contributing scheme figures for several grant applications and journal cover pages.

The findings of this research project are described in the present thesis. After his PhD, Je-Seung would like to continue his research in Academia, digging into the mystery of microbe-plant interaction and developing its field application.

List of publications

Je-Seung Jeon, Desalegn W. Etalo, Natalia Carreno-Quintero, Ric De Vos, and Jos M. Raaijmakers "Effects of sulfur assimilation in *Pseudomonas fluorescens* SS101 on growth, defense and metabolome of *Brassica* species" **(Chapter 5, submitted)**

Je-Seung Jeon, Natalia Carreno-Quintero, Ric De Vos, Jos M. Raaijmakers and Desalegn W. Etalo "Impact of root-associated beneficial *Paraburkholderia* species on primary and secondary metabolism of *Brassica oleracea*" **(Chapter 4, submitted)**

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The research described in this thesis was performed at the Department of Microbial Ecology of the Netherlands Institute of Ecology (NIOO-KNAW) in Wageningen. The doctoral research was financially supported by NIOO and National institute for international education (NIIED), the Korean government scholarship program.

This is NIOO-thesis number 177

Cover and layout by Je-Seung

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