

Table 4. Comparison of bacterial numbers in the rhizosphere quantified in this study with a selection of studies reported in the literature using other methods.

Reference	Organisms	Bacterial cells or colony-forming units				Plant and growth conditions	Quantification method
		Per cm root	Per g soil	Per cm ³ root	Per mm ² root		
This study ^a	Total bacteria	2.6×10^6	4.42×10^7	1.3×10^8	1.7×10^4	Wheat seminal roots, field	FISH, confocal microscopy
	<i>Pseudomonas</i>	2.5×10^4	4.2×10^6	1.3×10^7	1.6×10^3		
	Filamentous	1.0×10^4	1.7×10^6	5.0×10^6	6.3×10^2		
Briones <i>et al.</i> (2002)	Bacteria			4.0×10^8		Rice, flooded in soil in pots	FISH, confocal microscopy
Lübeck <i>et al.</i> (2000)	Bacteria				1.8×10^5	Sugar beet, soil in pots	FISH, confocal microscopy
Watt <i>et al.</i> (2003)	Bacteria	2×10^6 (base) to 2×10^7 (tip)				Wheat seminal roots, field	DAPI (bacteria)
	<i>Pseudomonas</i>	1×10^4 (base) to 1.5×10^5 (tip)					<i>Pseudomonas</i> (culturing)
van Vuurde and Schippers (1980)		2×10^4 (tip) to 2×10^6 (base)				Wheat, soil, pot	Culturing
Simpfendorfer <i>et al.</i> (2002)	Aerobic bacteria			8.6×10^7		Wheat, field	Culturing
	<i>Pseudomonas</i>			8.0×10^6			
	Filamentous			8.0×10^6			
Gochnauer <i>et al.</i> (1989)	Total viable bacteria			10^8		Maize, field	Culturing
	<i>Pseudomonas</i>			7.5×10^7 (sheathed roots)			
				3.9×10^7 (bare roots)			
	Filamentous			0 (sheathed roots) 3.1×10^5 (bare roots)			
Persello-Cartieaux <i>et al.</i> (2001)	<i>Pseudomonas</i> inoculated into growth medium	4×10^4 to 10^6				<i>Arabidopsis</i> , phytigel, soil	Culturing, microscopy of GFP-labelled bacteria
Chin-A-Woeng <i>et al.</i> (1997)	<i>Pseudomonas</i> inoculated onto germinated seed	10^2 (tip) to 10^6 (base)				Tomato, sand	Electron microscopy

a. Bacteria were expressed in a range of units by estimating root and rhizosphere diameter and volume, and dry weights to compare with other published values.