

Review of: "The Role of Plant Growth-Promoting Bacteria (PGPB) in Soil Fertility Restoration in Chemical-Contaminated Areas"

A. Keith Cowan¹

¹ Rhodes University

Potential competing interests: No potential competing interests to declare.

This is a very brief account of plant growth-promoting bacteria (PGPB), an extensive and intensive field of study in biology. If this is meant as a 'review' of the field and from a contemporary view, it is grossly lacking and is not acceptable for publication in any scientific format. If however, this is meant as a preamble to a more focussed review/overview it may be acceptable.

An ability to supplant fossil fuel (and/or mined) fertilisers with more sustainable, biological options presents an attractive addition to contemporary agriculture. In particular, the protective traits promised by using PGPB coupled with built-in mineralisation and plant growth substance-promoting ability augers well for in-field use. These organisms, either singularly or in consortium, have unfortunately been associated with the emergence and transfer of antimicrobial resistance genes. This attribute must be studied in greater detail, and the precise risks must be assessed.

The purpose of the article sent to this referee for review is unclear, but it seems to be a preamble to a book, chapter, or series of more detailed articles that might be part of a 'special issue'. Without this information (and perhaps I missed it) the real value of the information seems moot. That said, and albeit very brief, the article lacks depth. Most of the statements are unsupported, and very few, if any, examples are used to back up what sometimes seem to be very sweeping statements. It is in this area that additional information seems essential.

I have commented in several places on the manuscript to indicate areas of concern. In general, it is the lack of purpose of the review (i.e. why? historical, general overview, temporal update, systematic account, specific aspect), intended objective (i.e. what is the expected outcome and value of the review information) and limits or constraints (i.e. limited to which bacteria and why? all bacteria and from what environs?). Second, each component or main point is stated and not reviewed and is not placed in context with the larger literature body. Third, each component/section lacks depth and/or detail. A much deeper appreciation of the topic and the richness of the research that underpins this field of study and the various aspects should be evident in any account that purports to present a 'review'. Unfortunately, I can not recommend the information as presented for publication in a journal.