Inoculation of bacteria for the amelioration of sandy soil under drought

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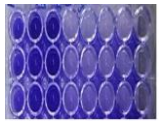
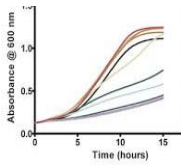
Introduction

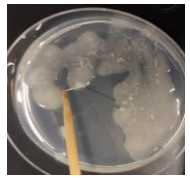
Goals

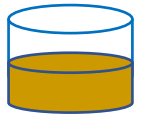
To seek to use bacteria-harboring specific traits to enhance the soil aggregation under drought.

Traits tested

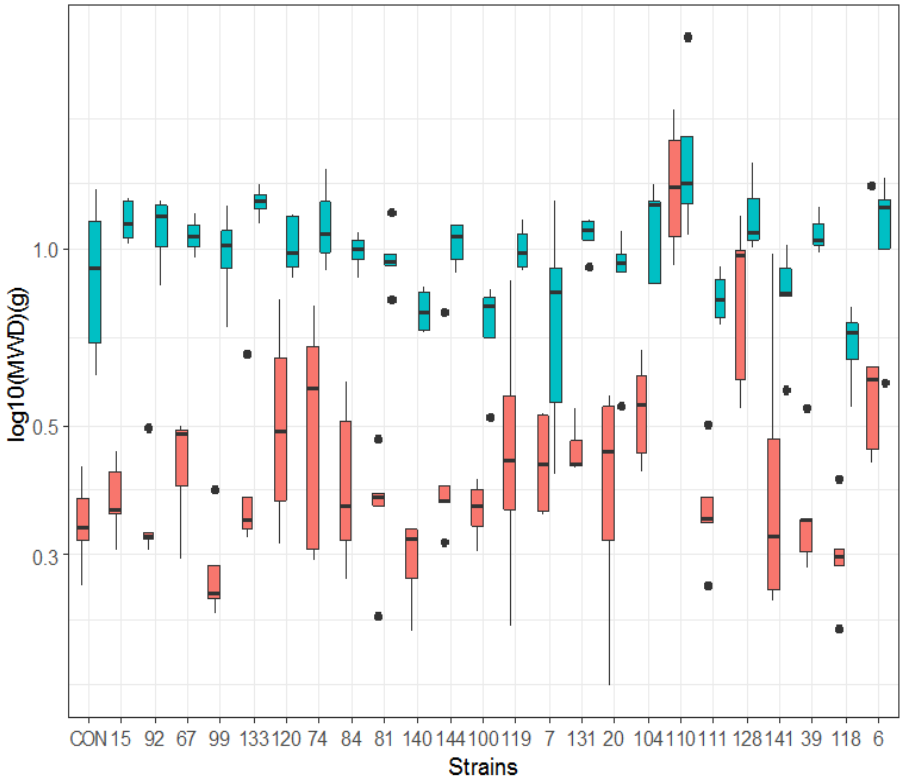








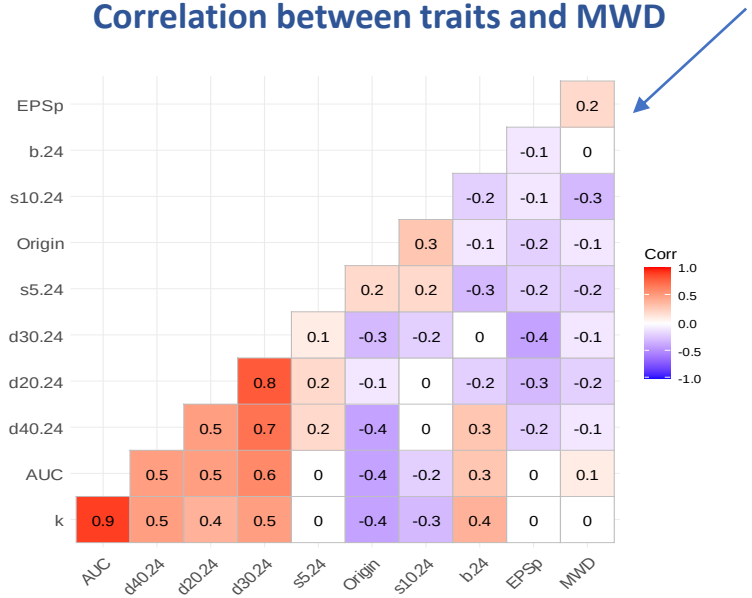
Main results: Water-stable aggregate fraction (MWD)



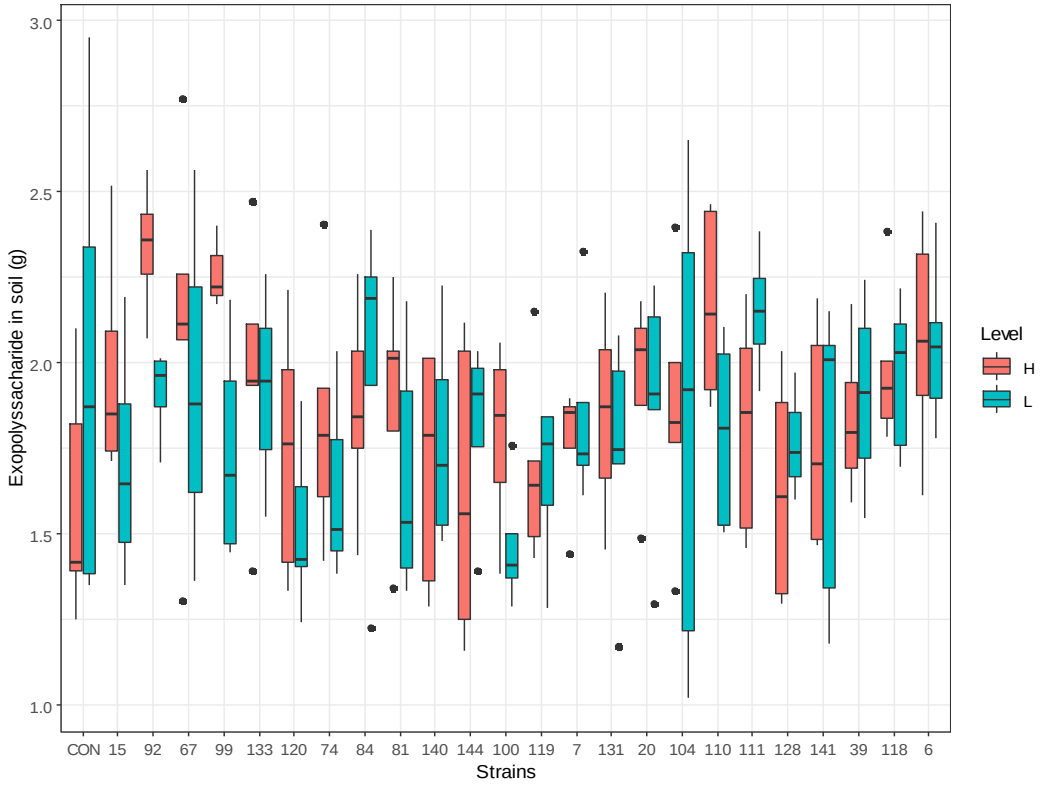
High level
110: *Streptomyces garderi*
6: *Bacyllus micoydes*
128: Bacillus cereus

Low level
110: *Streptomyces garderi*

Correlation between traits and MWD

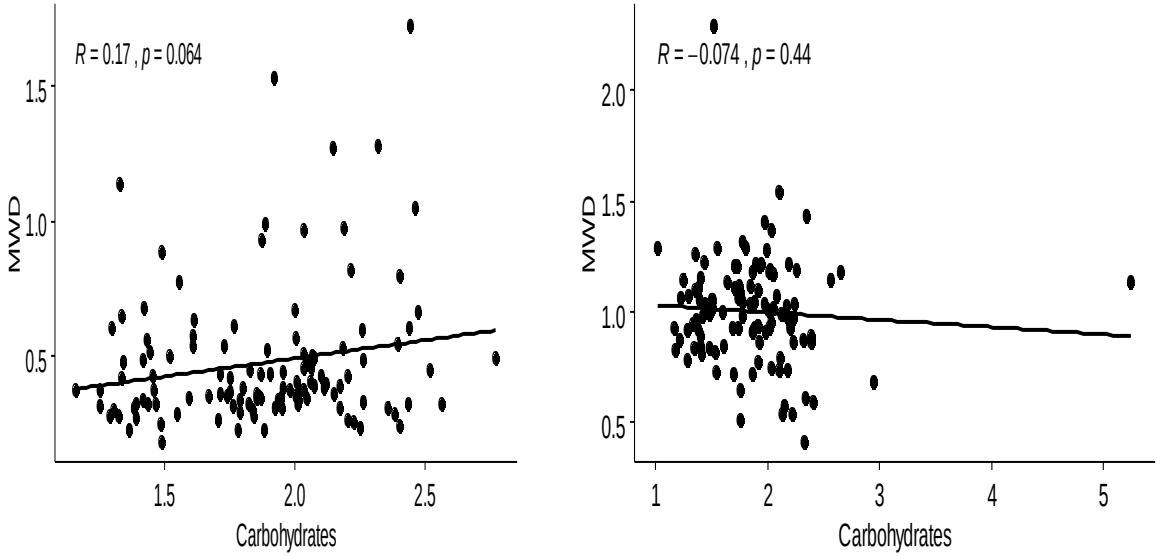


Production of extracelular polymeric substances in soil



High
92: *Pseudomonas donghuensis*
67: *Bacillus aryabhattai*
99: *Pseudomonas donghuensis*
110:*Streptomyces gardneri*

Correlation between high and low level of moisture and carbohydrates in soil



Conclusions

Our results suggest that soil inoculation with strains can help to improve soil aggregation.

However, the trait-based approach *in vitro* used in this research is a poor predictor for soil aggregation stability under drought.

Thank you so much!!