Nxumalo PN, Chen W-C, Hsu K-C, Song G-ZM, Chao K-J (2026). **Maximizing growth of *Acacia confusa* through native plant growth-promoting bacteria inoculation and seed pelleting for revegetation in landslide areas**
iForest – Biogeosciences and Forestry – doi: 10.3832/ifor4082-018

Supplementary Material

Tab. S1 - Soil physicochemical analysis from the three *A. confusa* plantation sites.

Site	Soil depth (cm)	Texture	pH	EC (µS cm^{-1})	Available ions (mg kg^{-1})			Exchangeable ions (mg kg^{-1})			OM%	Moisture %
					N	P	K	Na	Mg	Ca		
1	0-15	Sandy clay loam	5.2	80	111.36	2.12	33.9	15.7	16.8	116.5	25.94	12.05
	15-30	Clay loam	5.7	72.2	103.2	5.38	37.8	18.7	15.3	212.8	25.45	12.54
2	0-15	Sandy clay loam	3.9	141.8	87.02	3.8	20.2	12.3	5.4	537.9	22.65	0.18
	15-30	Clay loam	4.1	145.9	112.86	5.69	32.3	18.5	14.3	64.4	24.88	20.17
3	0-15	Clay loam	4.5	110.4	122.26	2.99	23.5	20.2	11.2	64.6	17.76	12.87
	15-30	Clay loam	4.5	80.4	94.05	1.82	15.8	11.1	8.4	47.8	4.98	8.65

Nxumalo PN, Chen W-C, Hsu K-C, Song G-ZM, Chao K-J (2026). **Maximizing growth of *Acacia confusa* through native plant growth-promoting bacteria inoculation and seed pelleting for revegetation in landslide areas**
iForest – Biogeosciences and Forestry – doi: 10.3832/ifor4082-018

Fig. S1 - Phylogenetic tree of the 16 strains used in the pot experiment and their closest species from the NCBI database. GenBank accession numbers are indicated in brackets. The analysis was performed in MEGA X. Numbers at forks are confidence percentages from confidence in the branching points > 56%, which was obtained by conducting 1000 bootstrap replicates using the neighbor-joining method. The scale bar refers to a phylogenetic distance of 0.05 nucleotide substitutions per site.

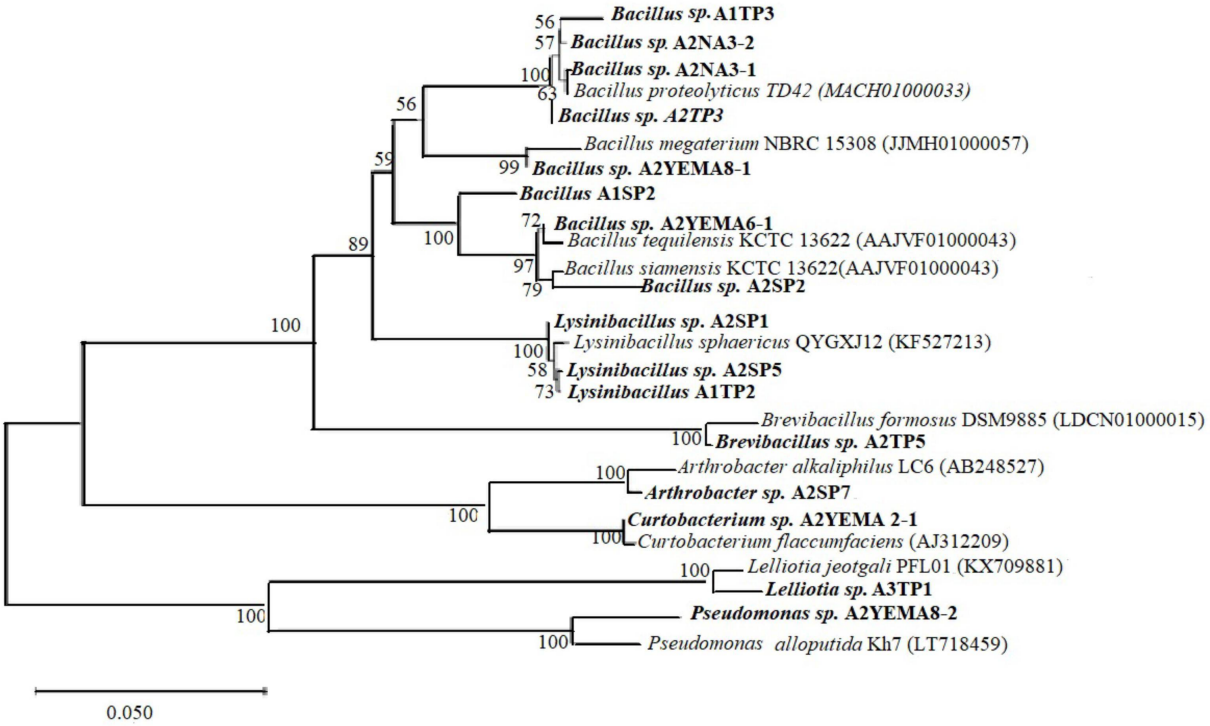

Fig. S2 - Images of plants inoculated with bacterial isolates A2SP5 and A2TP3 at week 20. (a) Plants grown from pretreated seeds inoculated with A2SP5; (b) plants grown from pretreated seeds inoculated with A2TP3.

Fig. S3 - Effect of endophytic bacterial inoculation on chlorophyll content at weeks 8 and 24 in seedlings from (a) pretreated seeds and (b) non-pretreated seeds. Data represent mean values with bars denoting standard error (± SD) of 5 seedlings per isolate. Bars not sharing a common uppercase letter differ significantly based on Tukey's HSD test ($p < 0.05$). (a) Bacterial inoculation had no significant effect on chlorophyll content (two-way ANOVA, $p = 0.621$). The age of the plant also had a significant effect (two-way ANOVA, $p < 0.01$). However, no significant interaction was observed between bacterial inoculation and plant age (two-way ANOVA, bacterial inoculation × plant age, $p = 0.481$). (b) Bacterial inoculation significantly affected chlorophyll content (two-way ANOVA, bacterial inoculation, $p = 0.030$). The age of the plant also had a significant effect (two-way ANOVA, plant age, $p < 0.01$), with chlorophyll SPAD values declining significantly from week 8 to 24 in seedlings grown from non-pretreated seeds, as indicated by isolates A2NA3-1 (two-way ANOVA, $p = 0.012$) and A2YEMA2-1 (two-way ANOVA, $p = 0.035$). However, no significant interaction was observed between bacterial inoculation and plant age (two-way ANOVA, bacterial inoculation × plant age, $p = 0.166$).

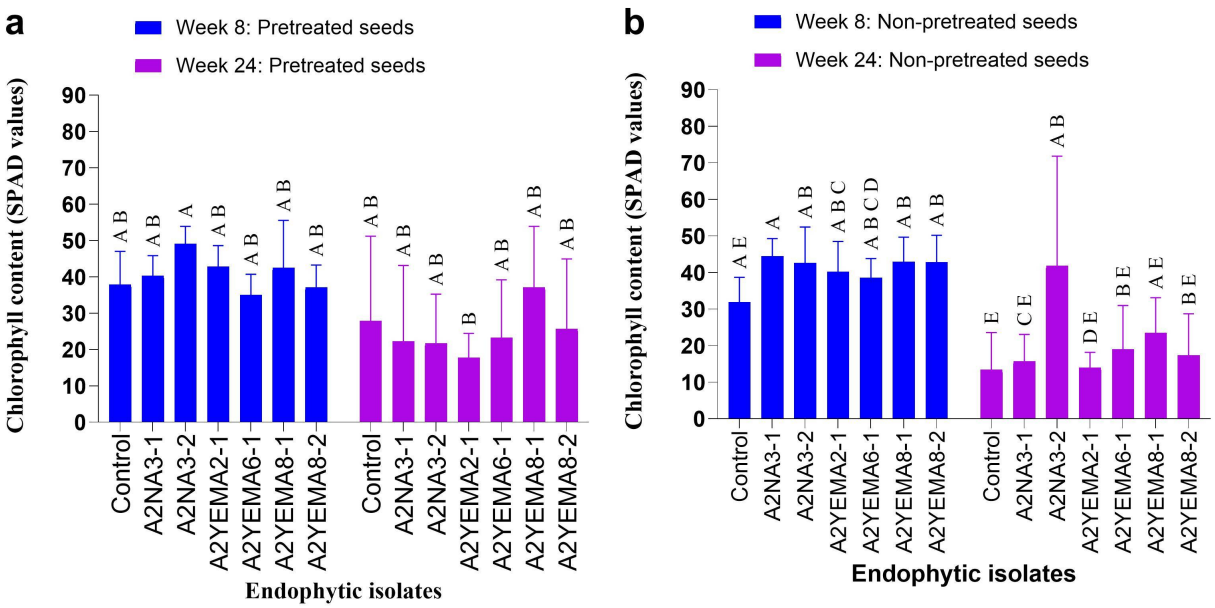

Fig. S4 - Effect of rhizospheric bacterial inoculation on chlorophyll content at weeks 8 and 24 in seedlings from (a) pretreated seeds and (b) non-pretreated seeds. Data represent mean values with bars denoting standard error (± SD) of 5 seedlings per isolate. Bars not sharing a common uppercase letter differ significantly based on Tukey's HSD test ($p < 0.05$). (a) Bacterial inoculation had no significant effect on chlorophyll content (two-way ANOVA, bacterial inoculation, $p = 0.087$). The age of the plant had a significant effect (two-way ANOVA, plant age, $p < 0.01$), with chlorophyll SPAD values declining significantly from week 8 to 24 in seedlings grown from pretreated seeds, as indicated by isolates A2SP2 (two-way ANOVA, $p = 0.043$). However, no significant interaction was observed between bacterial inoculation and plant age (two-way ANOVA, bacterial inoculation × plant age, $p = 0.231$). (b) Bacterial inoculation significantly affected chlorophyll content (two-way ANOVA, bacterial inoculation, $p = 0.087$). The age of the plant had a significant effect (two-way ANOVA, plant age, $p < 0.01$). However, no significant interaction was observed between bacterial inoculation and plant age (two-way ANOVA, bacterial inoculation × plant age, $p = 0.166$).

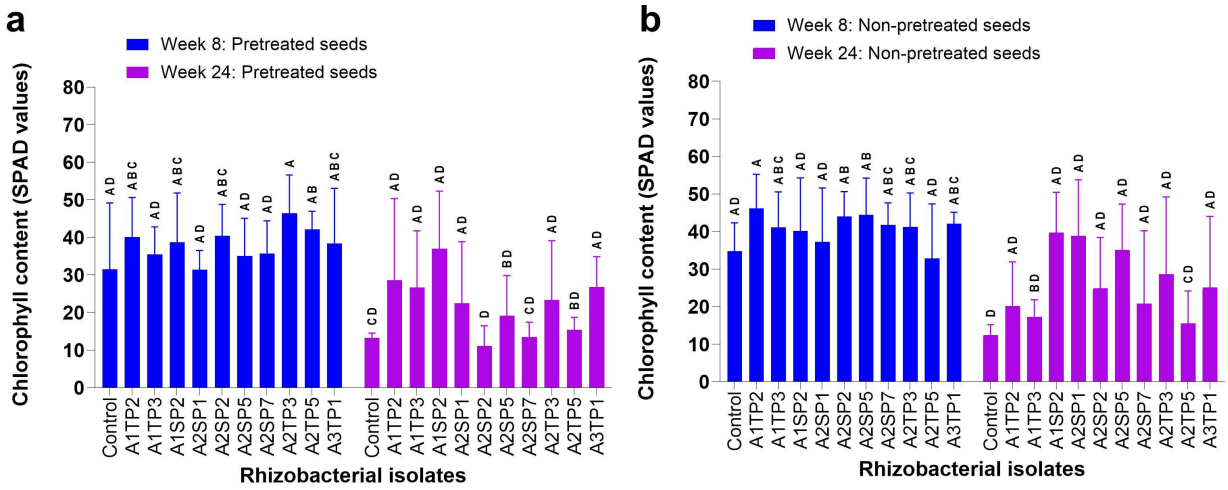

Fig. S5 - Effect of endophytic and rhizospheric bacterial inoculation on seedling survival percentage. Data represent the mean ± SD of 10 seedlings per bacterial isolate. (a) Inoculation with endophytic bacteria did not significantly affect seedling survival (two-way ANOVA, $p = 0.340$). Similarly, seed pretreatment had no significant effect (two-way ANOVA, seed pretreatment, $p = 0.088$), and no significant interaction was observed between bacterial inoculation and seed pretreatment (two-way ANOVA, bacterial inoculation × seed pretreatment, $p = 0.677$). (b) Inoculation with rhizobacteria also did not significantly impact seedling survival (two-way ANOVA, $p = 0.417$). Seed pretreatment showed no significant effect (two-way ANOVA, seed pretreatment, $p = 0.183$) and no significant interaction between bacterial inoculation and seed pretreatment (two-way ANOVA, bacterial inoculation × seed pretreatment, $p = 0.899$).