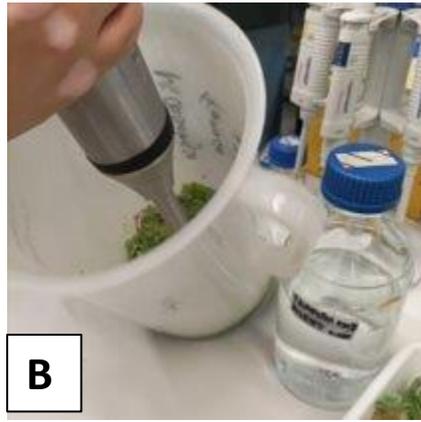
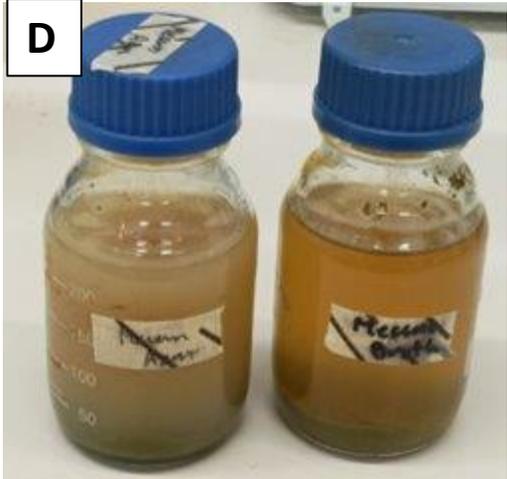
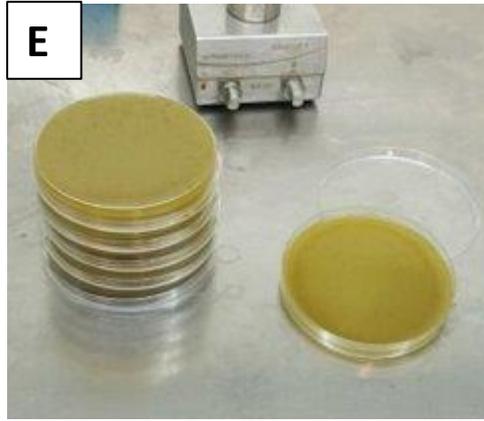
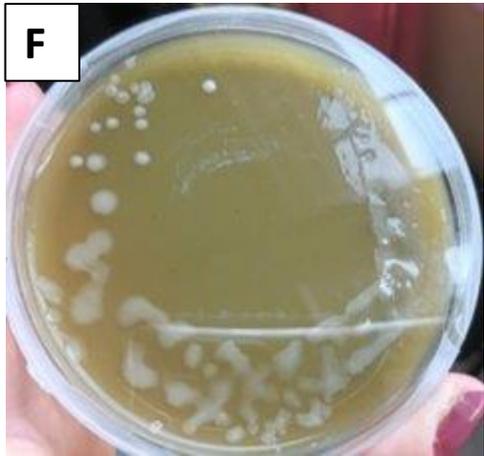
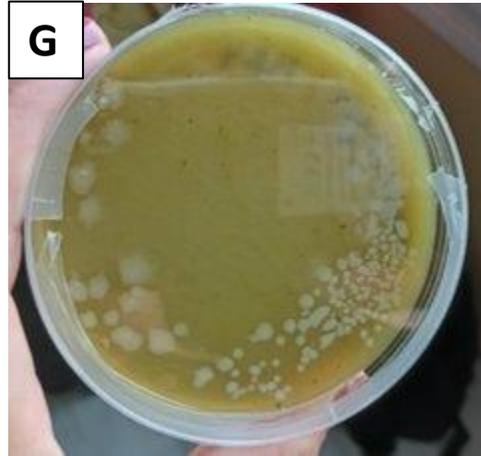
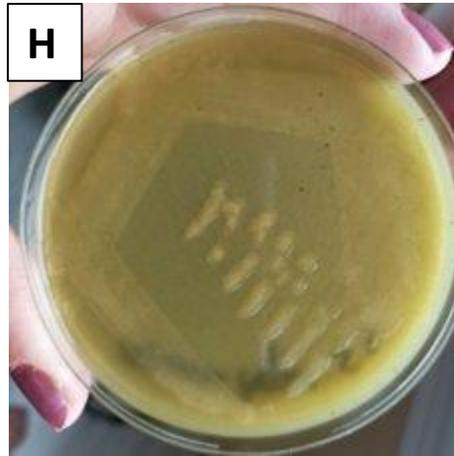


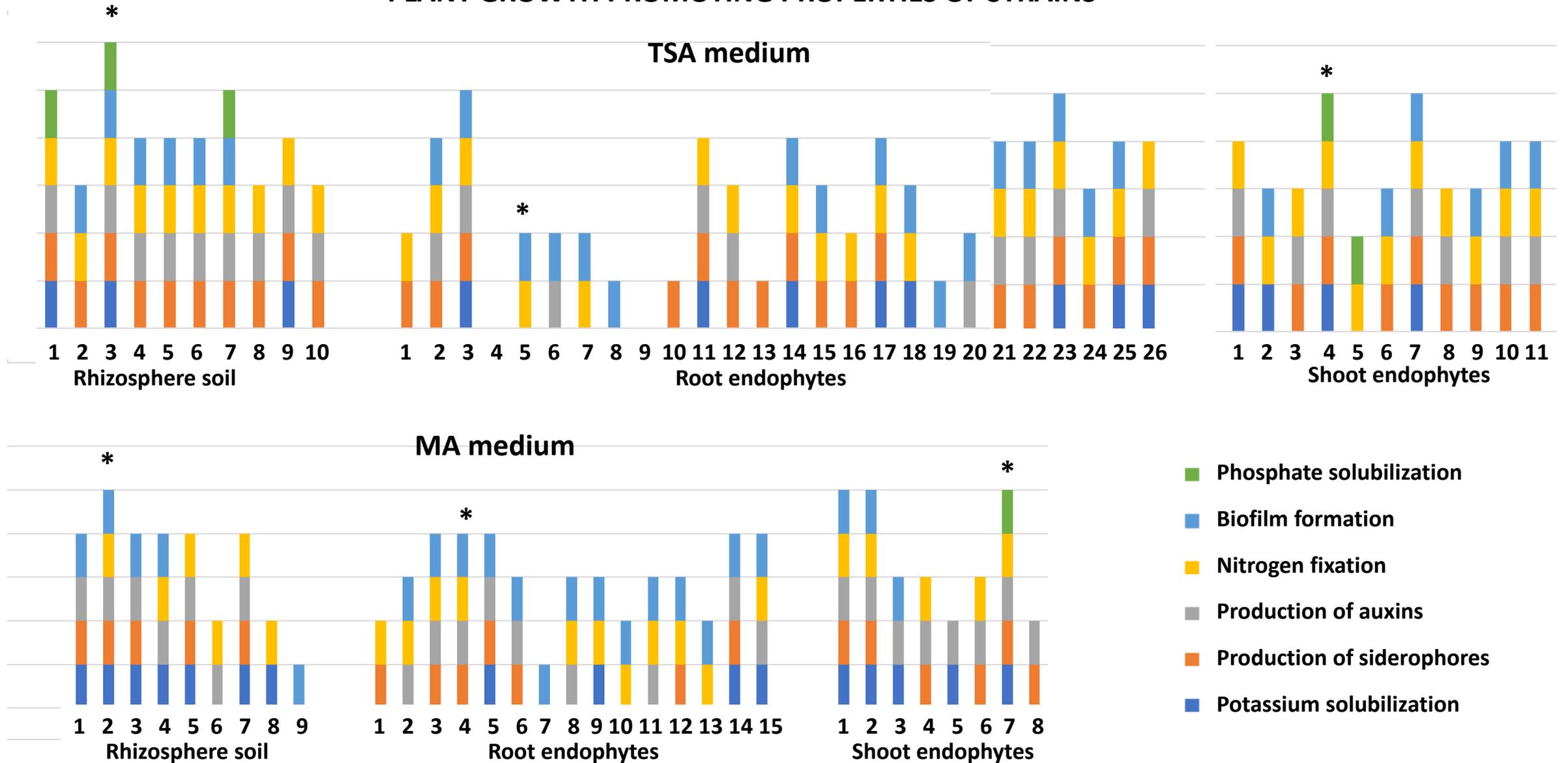
Supplementary Information Table S1. Genera and species isolated using the TSA standard medium and the MA medium, indicating the compartments they were isolated from.

TSA MEDIUM					MA MEDIUM						
Genus	Number of isolates	Species	Number of isolates	Plant compartment	Genus	Number of isolates	Species	Number of isolates	Plant compartment		
<i>Bacillus</i>	27	<i>subtilis</i>	8	rhizosphere soil, roots	<i>Priestia</i>	11	<i>aryabhatai</i>	8	rhizosphere soil, roots, shoots		
		sp.	5	roots, shoots			<i>megaterium</i>	3	rhizosphere soil, roots		
		<i>amyloliquefaciens</i>	4	roots			<i>Bacillus</i>	10	<i>subtilis</i>	5	roots
		<i>pumilus</i>	3	roots, shoots					<i>licheniformis</i>	1	roots
		<i>cereus</i>	2	roots					<i>velezensis</i>	1	shoots
		<i>inaquosorum</i>	1	shoots					<i>amyloliquefacien</i>	1	shoots
		<i>licheniformis</i>	1	roots					sp.	1	rhizosphere soil
		<i>mycoides</i>	1	roots					<i>flaccumfaciens</i>	1	roots
		<i>siamensis</i>	1	rhizosphere soil					sp.	4	roots, shoots
		<i>velezensis</i>	1	roots					<i>Microbacterium</i>	3	<i>kitamiense</i>
<i>Pseudomonas</i>	5	<i>gessardii</i>	1	shoots	sp.	2			roots		
		sp.	4	rhizosphere soil	<i>Pseudomonas</i>	3			<i>chlororaphis</i>	1	shoots
<i>Priestia</i>	3	<i>aryabhatai</i>	2	shoots	sp.	2	rhizosphere soil				
		<i>megaterium</i>	1	shoots	<i>Staphylococcus</i>	2	<i>cohnii</i>	1	roots		
<i>Pantoea</i>	3	<i>agglomerans</i>	2	rhizosphere soil	<i>warneri</i>	1	shoots				
		<i>alhagi</i>	1	rhizosphere soil	<i>Rosellomorea</i>	1	sp.	1	roots		
<i>Rosellomorea</i>	3	<i>vietnamensis</i>	1	roots	<i>Cytobacillus</i>	1	<i>oceanisediminis</i>	1	rhizosphere soil		
		<i>aquamaris</i>	1	roots	<i>Mesobacillus</i>	1	<i>subterraneus</i>	1	rhizosphere soil		
		sp.	1	roots							
<i>Cytobacillus</i>	1	<i>firmus</i>	1	roots	<b>TOTAL NUMBER OF ISOLATES IN MA MEDIUM</b>				<b>37</b>		
<i>Glutamicibacter</i>	1	<i>arilaitensis</i>	1	rhizosphere soil							
<i>Leclercia</i>	1	sp.	1	shoots							
<i>Lysinibacillus</i>	1	<i>fusiformis</i>	1	shoots							
<i>Mesobacillus</i>	1	<i>foraminis</i>	1	roots							
<i>Microbacterium</i>	1	<i>kitamiense</i>	1	shoots							
<b>TOTAL NUMBER OF ISOLATES IN TSA MEDIUM</b>				<b>47</b>							

**A****B****C****D****E****F****G****H**

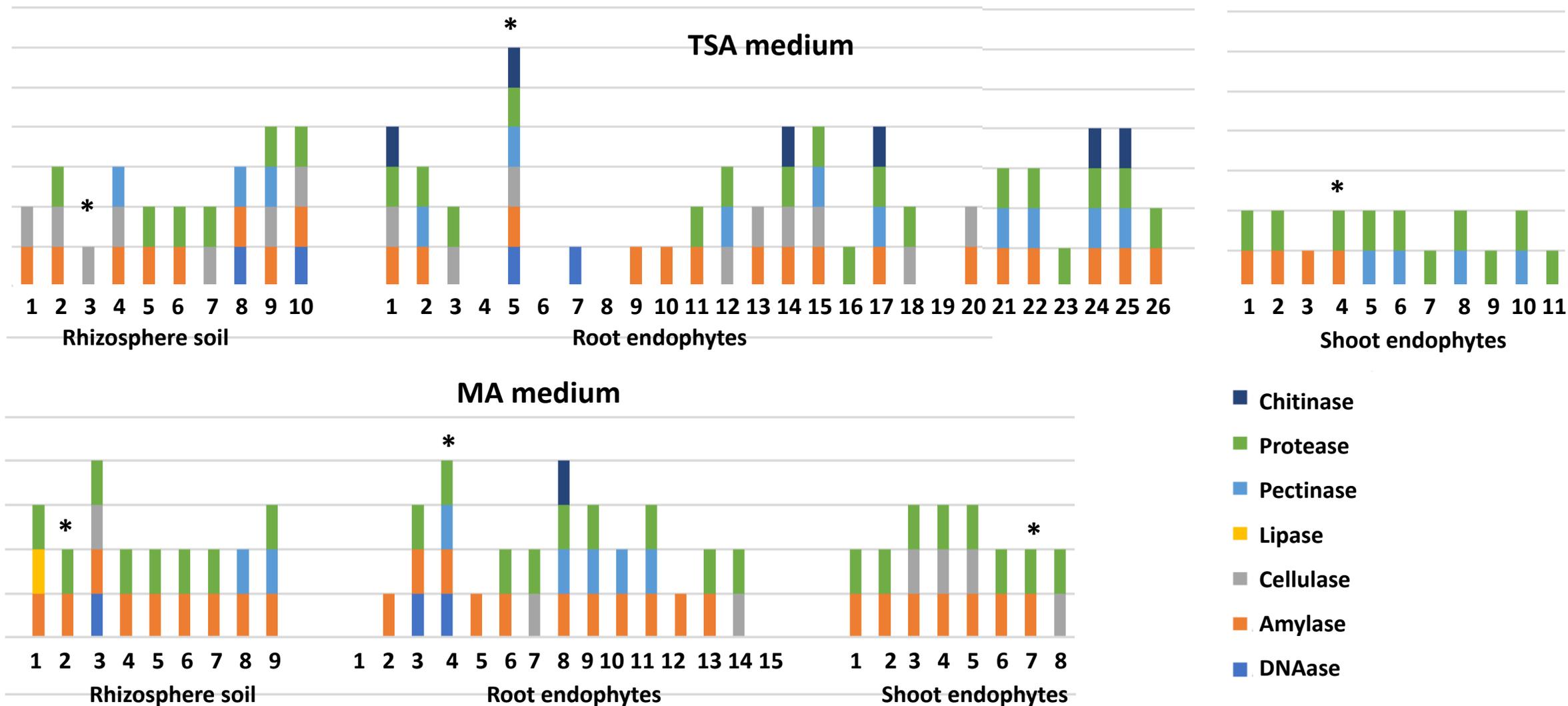
**Supplementary Information Figure S1.** A. Frozen tissues of *M. crystallinum* plants. B, C. Preparation of the medium MesemAgar (MA) with plant tissues and buffer using a mixer. D. Autoclaved media MesemAgar and MesemBroth. E. Plates of MesemBroth. F, G, H. Aspect of the strains MR4 (F), R5 (G) and MH8 (H) in medium MA.

## PLANT GROWTH PROMOTING PROPERTIES OF STRAINS



**Supplementary Information Fig. S2:** Plant Growth Promoting properties of the strains belonging to both collections. Each property has been assigned one color. The strains with the highest number of properties were selected (indicated with asterisks). Strain number 5 of root endophytes showing only two PGP activities was selected because the high number of extracellular activities (see Suppl. Inf. Fig. S3).

## Extracellular activities of the strains

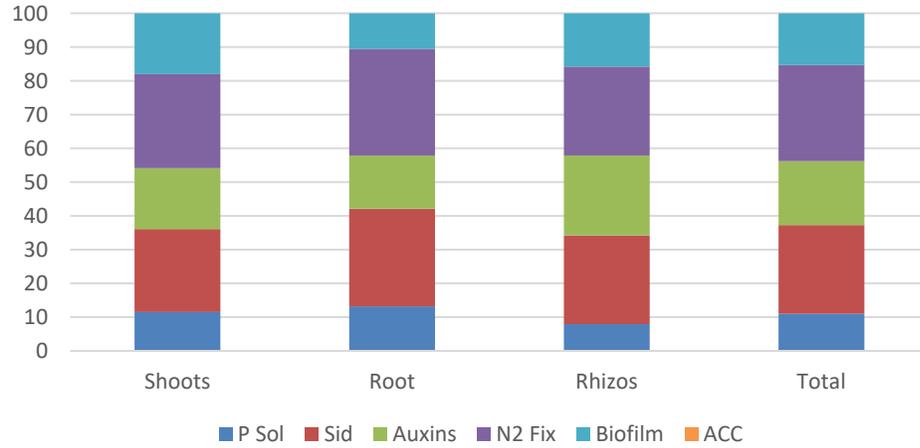


**Supplementary Information Fig. S3:** Extracellular activities of the strains belonging to both collections. Each property has been assigned one color. The strains indicated with asterisks were selected for the consortia on the basis of PGP activities and extracellular activities. Strain number 3 of rhizosphere soil displaying only cellulase activity was selected because the high number of PGP properties (see Suppl. Inf. Fig. S2).

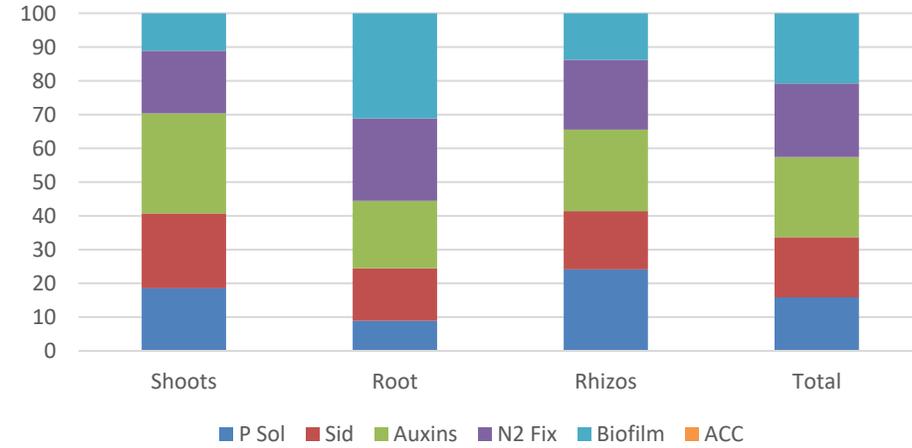
# Percentage of traits by plant compartment and media

PGP

TSA Collection

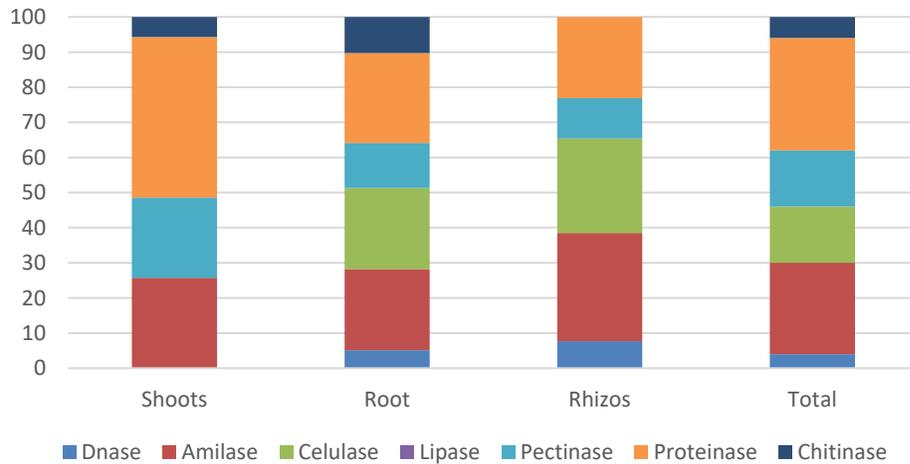


MA Collection



Enzymatic Activities

TSA Collection



MA Collection

