

“PGP potential, abiotic stress tolerance and antifungal activity of *Azotobacter*
strains isolated from paddy soils”

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Supplementary data

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Supplementary Fig 3—Plate showing the pure culture growth of *Azotobacter* spp. on 3% chloropyrifos concentration.

Supplementary Fig 4—Antifungal activity of *A. chroococcum* against *Fusarium* (A), *Alternaria* (B) *Aspergillus*; and (C) by dual culture method.

Supplementary Table 1—Biochemical characterization of PGP Potential *Azotobacter* strains isolated from northern parts of Karnataka region

Isolates	Indole	MR	VP	Citrate	Gelatine	Starch	Glucose	Lactose	Catalase	TSI
GVT-1	+ve	-ve	-ve	+ve	-ve	-ve	+ve	+ve	+ve	-ve
GVT-2	+ve	-ve	+ve	+ve	+ve	-ve	+ve	+ve	+ve	-ve
GVT-4	+ve	-ve	+ve	+ve	+ve	-ve	+ve	+ve	+ve	+ve
GVT-9	+ve	-ve	+ve	+ve	+ve	-ve	+ve	+ve	+ve	-ve
GVT-11	+ve	-ve	+ve	+ve	-ve	-ve	+ve	-ve	+ve	-ve
SND-3	+ve	-ve	+ve	+ve	+ve	-ve	+ve	+ve	+ve	-ve
SND-4	+ve	-ve	-ve	+ve	+ve	-ve	+ve	+ve	+ve	-ve
SND-9	+ve	-ve	-ve	+ve	-ve	-ve	+ve	-ve	+ve	-ve
KOP-5	+ve	-ve	-ve	+ve	+ve	-ve	-ve	-ve	+ve	-ve
KOP-11	+ve	-ve	+ve	+ve	+ve	-ve	+ve	+ve	+ve	-ve
RCR-4	+ve	-ve	+ve	+ve	+ve	-ve	+ve	-ve	+ve	-ve
DVD-7	+ve	-ve	+ve	+ve	+ve	-ve	+ve	-ve	+ve	-ve

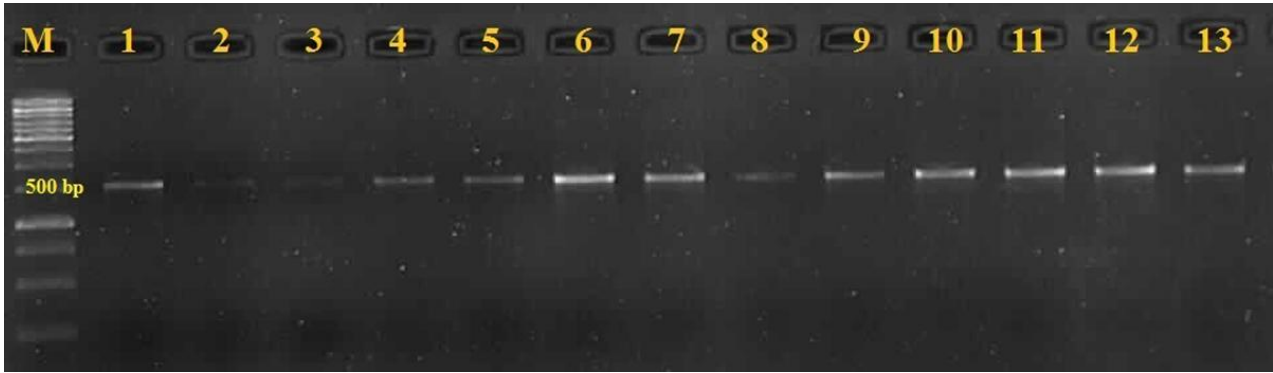
Supplementary Table 2—Statistical analyses of antifungal activity of *Azotobacter* species based on SPSS-16.0 version software

Bacteria	days	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	5	55.556	2.079	51.390	59.721
	7	48.333	2.079	44.168	52.499
2	5	54.444	2.079	50.279	58.610
	7	46.111	2.079	41.946	50.277
3	5	55.556	2.079	51.390	59.721
	7	48.333	2.079	44.168	52.499
4	5	56.111	2.079	51.946	60.277
	7	50.000	2.079	45.835	54.165

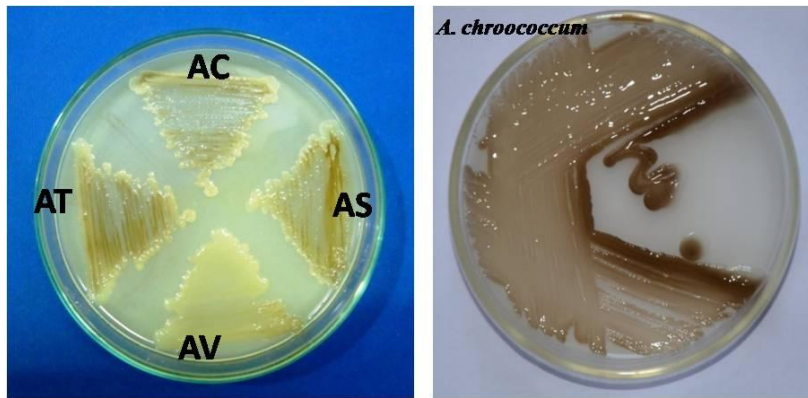
Note: 1. *A. chroococcum*; 2. *A. vinelandii*; 3. *A. salinestris*; 4. *A. tropicalis*



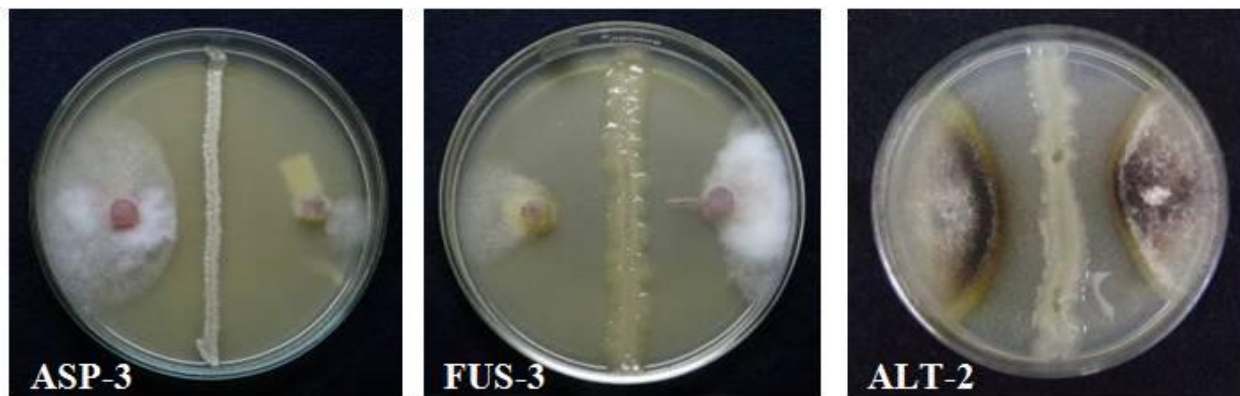
Supplementary Fig 1—Growth variability of *Azotobacter* species isolated from paddy soil samples.



Supplementary Fig 2—Agarose gel showing the amplified product of 13 *Azotobacter* species along with reference strain at 500 bp size. [Lane M: 100 bp marker; Lanes 1 and 2: *Azotobacter* sp.; Lanes 3 and 4: *A. vinelandii*; Lanes 5 and 6: *A. salinestris*; Lanes 7 and 8: *A. tropicalis*; Lanes 9 and 10: *A. chroococcum*; Lanes 11 and 12: *A. armeniacus*; and Lane 13: *A. vinelandii* (Reference)].



Supplementary Fig 3—Plate showing the pure culture growth of *Azotobacter* spp. on 3% chloropyrifos concentration. [AC- *A. chroococcum* (SND-4); AS- *A. salinestris* (GVT-1); AV- *A. vinelandii* (GVT-2); AT- *A. tropicalis* (KOP-11)]



Supplementary Fig 4—Antifungal activity of *A. chroococcum* against *Fusarium* (A), *Alternaria* (B) *Aspergillus*; and (C) by dual culture method. [ASP- *Aspergillus*; FUS- *Fusarium*; ALT- *Alternaria*]