

Table S1. Physicochemical Characteristics of Soil Sample.

Sr.No	Characteristics	Sample 1	Sample 2
1.	Soil Texture	Sandy Loam	Sandy Loam
2.	Soil Moisture	8%	8%
3.	EC	15 dS/m	16 dS/m
4.	pH	8	8
5.	Organic Matter	0.89 %	0.86 %
6.	Available Nitrogen	475 mg Kg ⁻¹	470 mg Kg ⁻¹
7.	Available Phosphorous	7.2 mg kg ⁻¹	7.0 mg kg ⁻¹
8.	Available Potassium	85 mg Kg ⁻¹	80mg Kg ⁻¹

Table S2. Morphology of isolates from arid region of Pakistan.

Sr.No.	Strains	Colony size and shape	Colony color	Cell motility	Cell shape
1.	A01	Small, wrinkled	Off white	Motile	Vibroid
2.	A02	Small, wavy	Off-white	Motile	Vibroid
3.	A03	Small, Rough	Creamy	Motile	Vibroid
4.	A04	Medium, Wavy	Yellowish	Motile	Vibroid
5.	A05	Medium, Rough	White	Motile	Vibroid
6.	A06	Small, Wavy	Creamy	Motile	Vibroid
7.	A07	Small, Rough	Creamy	Motile	Vibroid
8.	A08	Small, Rough	Off-white	Motile	Vibroid
9.	A09	Medium, Wavy	Creamy	Motile	Vibroid
10.	A10	Large, Wrinkled	Yellowish	Motile	Vibroid
11.	A11	Small, Rough	White	Motile	Vibroid
12.	A12	Small, Rough	Off-white	Motile	Vibroid
13.	A13	Medium, Rough	Creamy	Motile	Vibroid
14.	A14	Small, Wavy	Opaque	Motile	Vibroid
15.	B01	Large, Smooth	Fuzzy White	Motile	Rod Shaped
16.	B02	Medium, Spherical	Yellow	Motile	Rod Shaped
17.	B03	Small, Wavy	Off-white	Motile	Rod Shaped
18.	B04	Large, Spherical	Pink	Motile	Rod Shaped
19.	B05	Large, Circular	Yellowish	Motile	Rod Shaped
20.	B06	Medium, Spherical	Fuzzy White	Motile	Rod Shaped
21.	B07	Small, Smooth	Yellow	Motile	Rod Shaped
22.	B08	Large, Smooth	Opaque	Motile	Rod Shaped
23.	B09	Medium, Smooth	Pink	Motile	Rod Shaped
24.	B10	Small, Smooth	Yellow	Motile	Rod Shaped

Table S3. Screening for drought tolerance of isolated strains.

Sr.No.	Strains	05% PEG	10% PEG	15% PEG	20% PEG	25% PEG
1.	A01	+	-	-	-	-
2.	A02	+	+	+	-	-
3.	A03	+	+	+	-	-
4.	A04	+	+	+	-	-
5.	A05	+	+	-	-	-
6.	A06	+	+	+	+	-
7.	A07	+	+	+	+	+
8.	A08	+	+	+	-	-
9.	A09	+	+	+	-	-
10.	A10	+	+	+	-	-
11.	A11	+	+	+	-	-
12.	A12	+	+	+	-	-
13.	A13	+	+	+	-	-
14.	A14	+	+	-	-	-
15.	B01	+	+	+	-	-
16.	B02	+	+	+	-	-
17.	B03	+	+	+	-	-
18.	B04	+	+	+	+	-
19.	B05	+	+	+	+	+
20.	B06	+	+	+	-	-
21.	B07	+	+	-	-	-
22.	B08	+	+	+	-	-
23.	B09	+	+	+	-	-
24.	B10	+	+	-	-	-

Table S4. Characteristics of isolated strains.

Sr.No.	Strains	Gram Staining	Catalase	Phosphate Solubilization	Siderophore Production	HCN production
1.	A01	Gram Negative	+	-	-	-
2.	A02	Gram Negative	+	-	-	-
3.	A03	Gram Negative	+	-	-	-
4.	A04	Gram Negative	+	-	-	-
5.	A05	Gram Negative	+	-	-	-
6.	A06	Gram Negative	+	-	-	-
7.	A07	Gram Negative	+	+	+	+
8.	A08	Gram Negative	+	-	-	-
9.	A09	Gram Negative	+	-	-	-
10.	A10	Gram Negative	+	+	-	-
11.	A11	Gram Negative	+	-	-	-
12.	A12	Gram Negative	+	-	-	-
13.	A13	Gram Negative	+	-	+	+
14.	A14	Gram Negative	+	-	-	-
15.	B01	Gram Positive	+	-	-	+
16.	B02	Gram Positive	+	-	-	-
17.	B03	Gram Positive	+	-	-	-
18.	B04	Gram Positive	+	-	-	-
19.	B05	Gram Positive	+	+	+	+
20.	B06	Gram Positive	+	-	-	-
21.	B07	Gram Positive	+	-	+	-
22.	B08	Gram Positive	+	-	-	-
23.	B09	Gram Positive	+	-	-	-
24.	B10	Gram Positive	+	-	-	-

Table S5. Carbon/Nitrogen source utilization pattern determined by QTS -24 kits.

Sr.No.	Test	TEST	A07	B05
1.	OPNG	Ortho nitro phenyl β -D-galactopyranoside	+	+
2.	CIT	Sodium citrate	+	-
3.	MALO	Sodium malonate	+	-
4.	LDC	Lysine decarboxylase	+	-
5.	ADH	Arginine dihydrolase	+	-
6.	ODC	Ornithine decarboxylase	+	-
7.	H ₂ S	H ₂ S production	+	-
8.	UREA	Urea hydrolysis	+	-
9.	TDA	Tryptophane deaminase	+	-
10.	ND	Indole	+	-
11.	VP	Voger Proskaur(Acetion)	+	-
12.	GEL	Gelatin hydrolysis	+	-
13.	GLU(a)	Acid from glucose	+	+
14.	GLU(b)	Nitrate reduction	+	+
15.	MAL	Acid from maltose	+	+
16.	SUC	Acid from sucrose	+	-
17.	MAN	Acid from mannitol	+	-
18.	ARA	Acid from arabinose	+	+
19.	RHA	Acid from rhamnose	+	+
20.	SOR	Acid from sorbitol	+	-
21.	INOS	Acid from inositol	+	-
22.	ADO	Acid from adontol	+	-
23.	MEL	Acid from melibiose	+	+
24.	RAF	Acid from raffinose	+	-
Strain Identified			<i>Azospirillum brasilense</i>	<i>Bacillus subtilis</i>

Table S6. Molecular identification of the isolates based on partial 16S rDNA analysis.

No.	Isolates	Base Pair Length	Similarity (%)	Strain Identification	Accession No.
1	A07	1400	98%	<i>Azospirillum brasilense</i>	MT742977
2	B05	1480	99%	<i>Bacillus subtilis</i>	MT742976

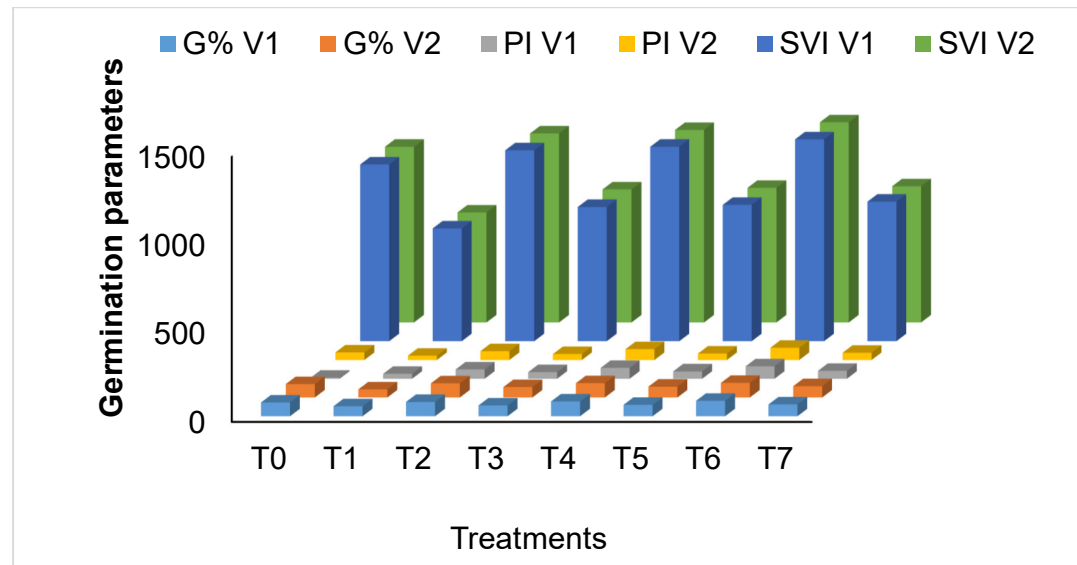


Figure 1. Effect of inoculation on germination percentage (G%), seedling vigor index (SVI), and promptness index (PI) of two wheat varieties under control and drought stress conditions. Where, T0= control, T1= drought stress, T2= well-watered + *B.subtilis*, T3= drought + *B.subtilis*, T4= well -watered + *A.brasilense*, T5= drought + *A.brasilense*, T6=bacterial combination + well-watered, T7= bacterial combination + drought, columns represent the mean values, V1=Pak 13 and V2=NARC 09.