

Response of soil bacterial community and pepper plant growth to application of *Bacillus thuringiensis* KNU-07

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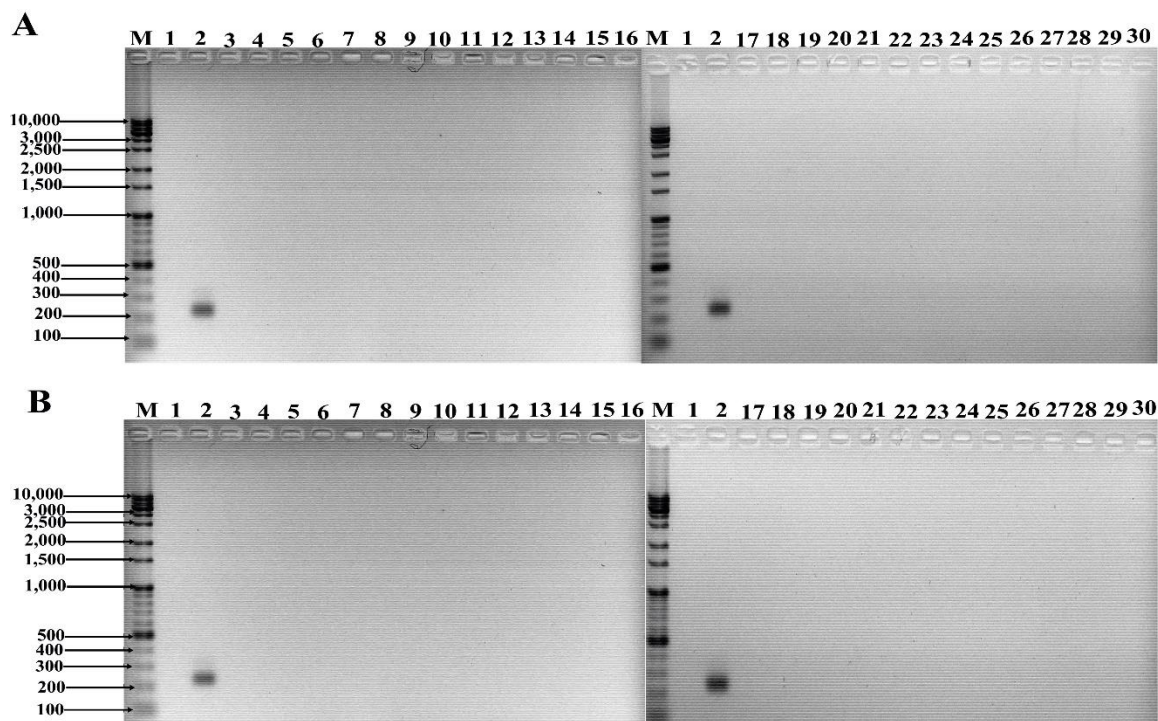


Figure S1. Effectiveness of the single primer pair for specific detection of *B. thuringiensis* KNU-07. (A) Lane M: Doctor protein 1 kb plus ladder, lane 1: negative control, lane 2: KNU-07, lane 3-30: different bacterial strains samples (Table S1). (B) Lane M: Doctor protein 1 kb plus ladder, lane 1: negative control, lane 2: KNU-07, lane 3-30: soil samples isolated from different locations (Table S2). Primer pair KNU07F/ KNU07R without template KNU-07 DNA served as the negative control.

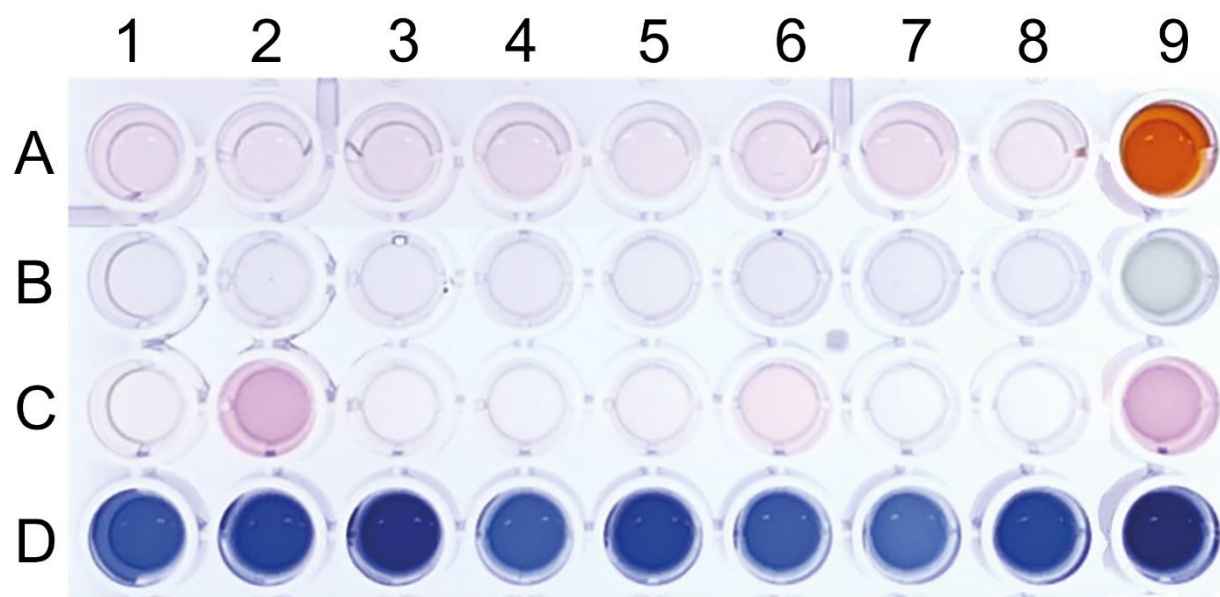


Figure S2. Potential of some *Bacillus* spp (1-8) and KNU-07 (9) for indole acetic acid production (A), siderophore activity (B), urease activity (C) and phosphatase activity (D). 1=*Bacillus licheniformis* KACC 10476, 2=*Bacillus megaterium* KACC 10482, 3=*Bacillus polymyxa* KACC 10485, 4=*Bacillus subtilis* KACC 10854, 5=*Bacillus pumilus* KACC 10917, 6=*Bacillus macerans* KACC 11233, 7=*Bacillus amyloliquefaciens* KACC 12067, 8=*Bacillus velezensis* KACC 14004.

Table S1. Bacterial strains used in this study

Species	Source*	Lane number in Figure S1 A
<i>Bacillus thuringiensis</i> KNU-07	This study	2
<i>Bacillus aerophilus</i> sp.	KNU, South Korea	3
<i>Bacillus amyloliquefaciens</i> KACC 12067	KACC, South Korea	4
<i>Bacillus amyloliquefaciens</i> sp.	KNU, South Korea	5
<i>Bacillus cereus</i> KACC 10097	KACC, South Korea	6
<i>Bacillus cereus</i> KACC 11240	KACC, South Korea	7
<i>Bacillus macerans</i> KACC 11233	KACC, South Korea	8
<i>Bacillus megaterium</i> sp.	KNU, South Korea	9
<i>Bacillus methylotrophicus</i> sp.	KNU, South Korea	10
<i>Bacillus megaterium</i> KACC 10482	KACC, South Korea	11
<i>Bacillus megaterium</i> sp.	KNU, South Korea	12
<i>Bacillus licheniformis</i> KACC 10476	KACC, South Korea	13
<i>Bacillus licheniformis</i> sp.	KNU, South Korea	14
<i>Bacillus polymyxa</i> KACC 10485	KACC, South Korea	15
<i>Bacillus pumilus</i> KACC 10917	KACC, South Korea	16
<i>Bacillus toyonensis</i> sp.	KNU, South Korea	17
<i>Bacillus thuringiensis</i> KACC 10173	KACC, South Korea	18
<i>Bacillus thuringiensis</i> KACC 12061	KACC, South Korea	19
<i>Bacillus thuringiensis</i> sp.	KNU, South Korea	20
<i>Bacillus toyonensis</i> sp.	KNU, South Korea	21
<i>Bacillus subtilis</i> KACC 10854	KACC, South Korea	22
<i>Bacillus subtilis</i> sp.	KNU, South Korea	23
<i>Bacillus velezensis</i> KACC 14004	KACC, South Korea	24
<i>Pseudomonas fluorescens</i> sp.	KNU, South Korea	25
<i>Pseudomonas conspicua</i> sp.	KNU, South Korea	26
<i>Serratia marcescens</i> sp.	KNU, South Korea	27
<i>Bacillus cepacia</i> sp.	KNU, South Korea	28
<i>Escherichia coli</i> DH5 α	KNU, South Korea	29
<i>Pseudomonas temperata</i> sp.	KNU, South Korea	30

KNU: Kyungpook National University; KACC: Korea Agricultural Culture Collection

Table S2. Sources of soil samples used for *in vitro* PCR assays

Soil source	Location	Lane number in Figure S1 B
Bean cultivation	Sangju, South Korea	3,4,5
Ginseng cultivation	Sangju, South Korea	6,7,8
Ginseng cultivation	Punggi, South Korea	9,10,11
Cnidium cultivation	Bongwha, South Korea	12,13,14
Dokdo soil	East islet, South Korea	15,16,17
Dokdo soil	West islet, South Korea	18,19,20
Garden soil	Daegu, South Korea	21,22,23
Wastewater	Daegu, South Korea	24,25,26
Human feces	Daegu, South Korea	27,28,29
Artificial wastewater	Daegu, South Korea	30

Table S3. Statistical analysis of bacterial community structure at an operational taxonomic unit level in the last three weeks

Comparisons	ADONIS ^a		ANOSIM ^a	
	R ²	<i>p</i>	R	<i>P</i>
Between treatments	0.484	0.027	0.663	0.019
Between weeks	0.246	0.587	-0.004	0.555

^a Statistical analysis of ADONIS and ANOSIM were carried out based on Bray-Curtis dissimilarities at the operational taxonomic unit level.