



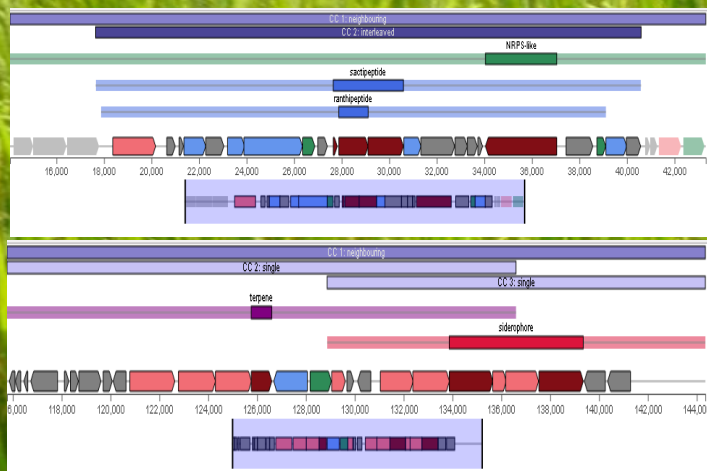
Sources:
Isolated from leaf
of BLACK RICE

Agriculturally important endophytic bacteria
***Bacillus altitudinis* Lc5 from black rice of Manipur**

AGRICULTURAL APPLICATIONS

**Stress tolerance
& Nitrogen fixing
ability**

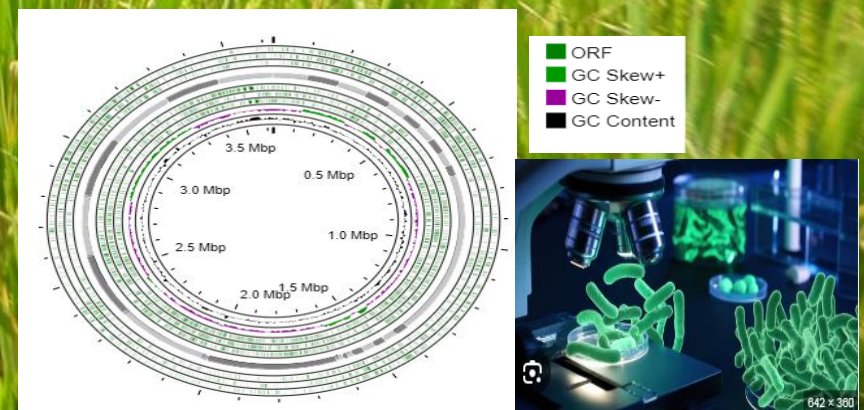
**Production of defensive enzymes,
solubilize phosphate, chelates iron,
presence of metabolites**



GENOME INFORMATION

***Bacillus altitudinis* Lc5**
Genome size: 3.74Mb
Accession no.QCWN00000000

Importance:
Towards Development of bioformulation for PGPR activity



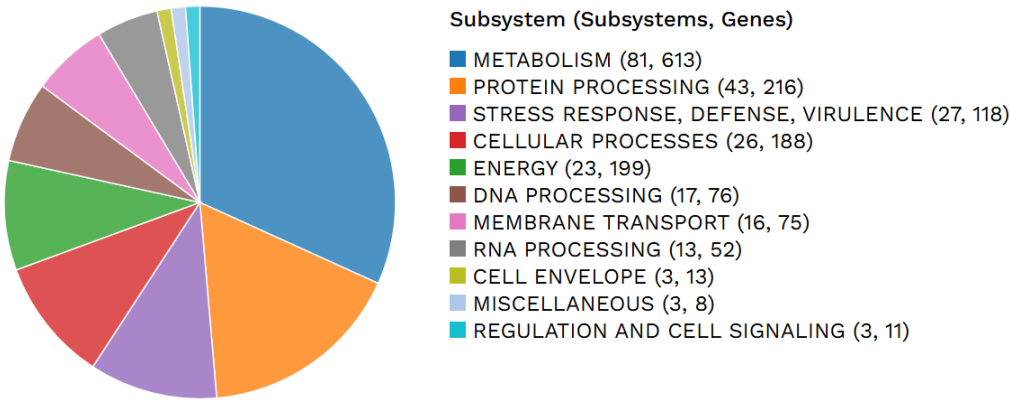
Bacillus altitudinis Lc5 QCWN00000000

Quality of Genome Assembly and Annotation:
Results from indigenously developed **BHARAT** analysis pipeline:
(**B**acterial **H**ybrid genome **A**ssembly and **R**apid **A**nnotation **T**oolset)

Table 1: Assembly Details		Table 2: Annotated Genome Features	
Contigs	69	CDS	3,835
GC Content	41.43	tRNA	74
Contig L50	6	rRNA	12
Genome length	3,628,062 bp	Repeat Regions	0
Contig N50	234,390		

Table 3: Antimicrobial Resistance Genes	
AMR Mechanism	Genes
Antibiotic inactivation enzyme	CatA6 family
Antibiotic target in susceptible species	Alr, Ddl, dxr, EF-G, EF-Tu, folA, Dfr, folP, gyrA, gyrB, inhA, fabI, Iso-tRNA, kasA, MurA, rho, rpoB, rpoC, S10p, S12p
Antibiotic target replacement protein	fabL
Efflux pump conferring antibiotic resistance	BceA, BceB, EbrA, EbrB
Gene conferring resistance via absence	gidB
Protein altering cell wall charge conferring antibiotic resistance	GdpD, MprF, PgsA
Regulator modulating expression of antibiotic resistance genes	BceR, BceS, LiaF, LiaR, LiaS

Subsystem Analysis



Genome Assembly

