

Supplementary Table 1 Composition of irrigation waters at Research Farm of Punjab Agricultural University, Ludhiana, Punjab

Characteristic	Canal water	Sodic water
Electrical conductivity (dS/m)	0.29	1.40
Ca <sup>2+</sup> (me/L)	1.50	0.70
Mg <sup>2+</sup> (me/L)	0.90	0.80
Na <sup>+</sup> (me/L)	0.40	15.5
CO <sub>3</sub> <sup>2+</sup> + HCO <sub>3</sub> <sup>-</sup> (me/L)	1.80	14.0
Cl <sup>-</sup> (me/L)	0.90	1.60
Residual sodium carbonate (RSC)	-	12.5

Supplementary Table 2 Economics: Gypsum vs Gypsum + Bioformulation

Amendment	Rate/ha	Price (₹/ha)	Savings (₹/ha)
Gypsum	50% of GR	3600	-
Bioformulation (Azo, PSB and ZnSB)	3 bottle (110 ml) each of Azo, PSB and ZnSB	7.5 × 100 = 750	-
Gypsum + Bioformulation	25% of GR + (Azo + PSB + ZnSB)	2550	1050