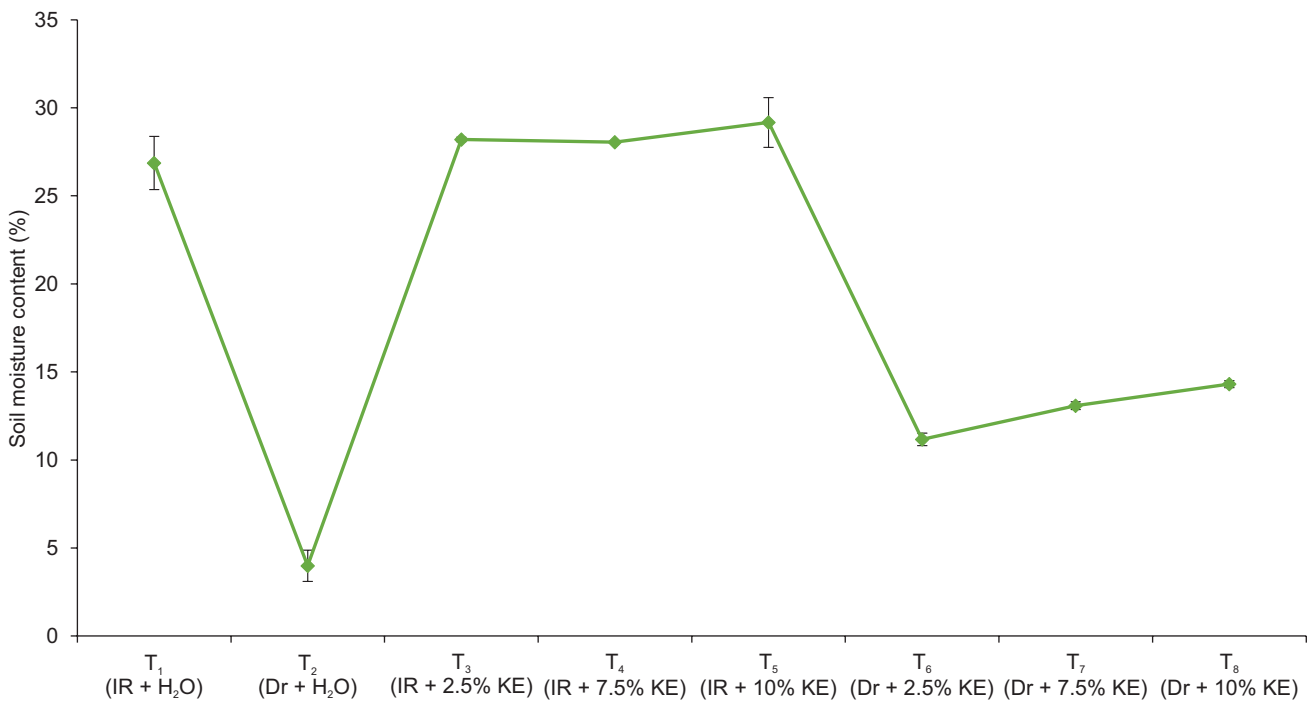


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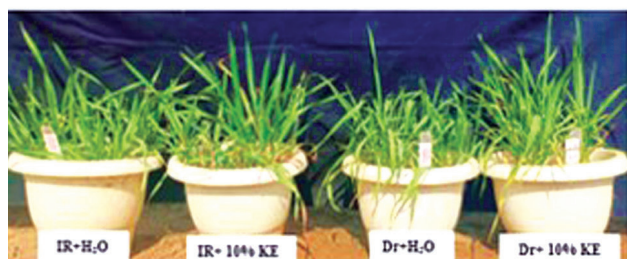
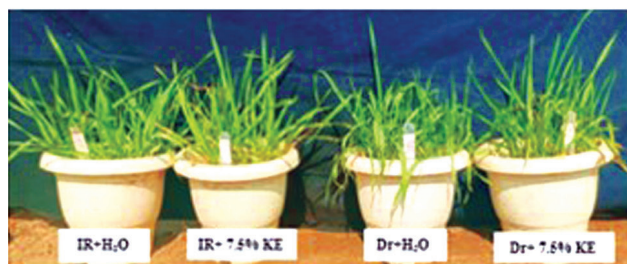
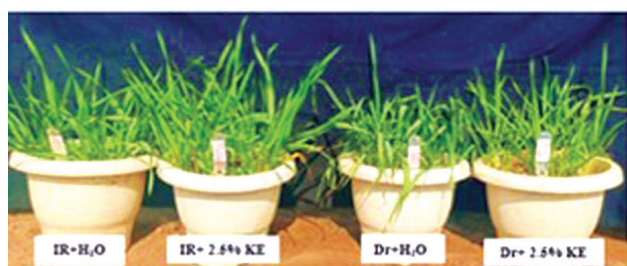
Supplementary Table 1 List of treatments

Treatments	Detail
T ₁ (IR + H ₂ O)	Irrigation + Foliar spray with water
T ₂ (Dr + H ₂ O)	Without irrigation + Foliar spray with water
T ₃ (IR + 2.5%KE)	Irrigation + 2.5% foliar spray of KE
T ₄ (IR + 7.5%KE)	Irrigation + 7.5% foliar spray of KE
T ₅ (IR + 10%KE)	Irrigation + 10% foliar spray of KE
T ₆ (Dr + 2.5%KE)	Without irrigation + 2.5% foliar spray of KE
T ₇ (Dr + 7.5%KE)	Without irrigation + 7.5% foliar spray of KE
T ₈ (Dr + 10%KE)	Without irrigation + 10% foliar spray of KE

KE, *Kappaphycus alvarezii* extract

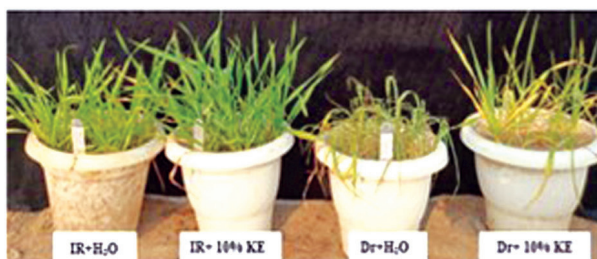
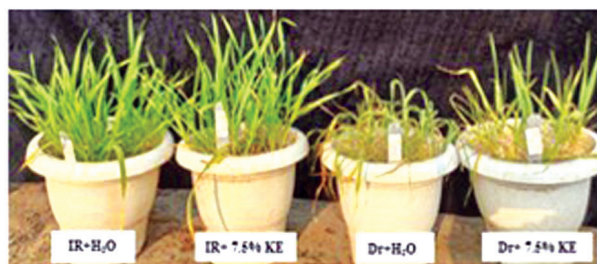
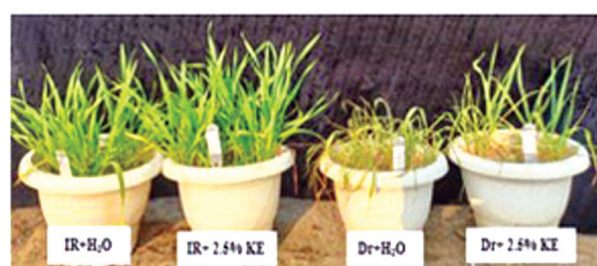
Supplementary Fig. 1 The graph represents soil moisture content (%) across various irrigation (IR) and drought (Dr) treatments, with or without KE (*Kappaphycus alvarezii* extract) application at varying concentrations (2.5%, 7.5%, and 10%) recorded at 45 DAS. Data points represent mean (values of 2023–24 and 2024–25) with standard error bars.

5 days after drought stress



(A)

10 days after drought stress



(B)

Supplementary Fig. 2 Effect of foliar application (twice) of KE (*Kappaphycus alvarezii* extract) on wheat plant growth at (A) 5 days and (B) 10 days after drought stress under well-watered and water stress condition.