



Effect on sea barley accessions (*Hordeum marinum* Huds. accessions H21, H87, H109, H155, amphiploids-H21-CS, H87-CS, H109-CS, H155-CS))

The net impact of individual and combined stress on plant growth

Crop: Sea barley (*Hordeum marinum* Huds. Accessions H21, H87, H109, H155, amphiploids-H21-CS, H87-CS, H109-CS, H155-CS)
 Stress 1: Salt (200mM NaCl)
 Stress 2: Hypoxia (14 days)
 Stage of plant : 14 day old seedling

The table shows the effect of hypoxia and salt alone and in combination on growth of sea barley accessions.

	Treatment	Plant response to stress**
		Type A parameters*
		Relative growth rate (% of control)
H21	Salt (200mM NaCl)	91.4
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	89.6
H87	Salt (200mM NaCl)	75.3
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	67.9
H109	Salt (200mM NaCl)	85
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	97.5
H155	Salt (200mM NaCl)	90.6

	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	79.2
H21-CS	Salt (200mM NaCl)	83.7
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	57.9
H87-CS	Salt (200mM NaCl)	77.3
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	60.2
H109-CS	Salt (200mM NaCl)	88.1
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	71
H155-CS	Salt (200mM NaCl)	78.9
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	61.8

Reference – Alamri SA, Barrett-Lennard EG, Teakle NL, Colmer TD (2013) Improvement of salt and waterlogging tolerance in wheat: comparative physiology of *Hordeum marinum*-*Triticum aestivum* amphiploids with their *H. marinum* and wheat parents. *Funct Plant Biol.* 40(11):1168-1178.

Note:

‘*’ - For more information on parameter classification, please refer to the ‘methodology’ tab.

‘**’ - Values are presented as it is from the source article without subjecting to the calculation.

Inference from the study: Alamri et.al. 2013, studied the interaction of hypoxia and salinity in eight accessions of sea barley plants. Plants were subjected to single and sequential salt and hypoxia stress treatment. The relative growth rate was reduced synergistically under combined stress for all cultivars except accession H109. **Thus, this stress combination is detrimental to the growth of sea barley accession.**