Effect on sea barley Accessions H21, H87, H90, H109, H522, H524, H546, H547, H559)

The net impact of individual and combined stress on plant growth

Crop: Sea barley (*Hordeum marinum* Huds. Accessions H21, H87, H90, H109, H522, H546, H547, H559)
Stress 1: Salt (200mM NaCl)
Stress 2: Hypoxia
Stage of plant : 17 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	Hypoxia	68.1
	Salt (200mM NaCl)	78.0
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	41.3
H87	Hypoxia	83.5
	Salt (200mM NaCl)	57.1
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	50.0
H90	Hypoxia	73.6
	Salt (200mM NaCl)	79.1
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	53.2

H109	Hypoxia	69.2
	Salt (200mM NaCl)	84.6
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	51.0
H522	Hypoxia	87.9
	Salt (200mM NaCl)	85.7
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	53.2
H524	Hypoxia	82.4
	Salt (200mM NaCl)	83.5
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	47.8
H546	Hypoxia	76.9
	Salt (200mM NaCl)	60.4
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	28.2
H547	Hypoxia	83.5
	Salt (200mM NaCl)	70.3
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	45.6
H559	Hypoxia	87.9
	Salt (200mM NaCl)	84.6
	Salt (200mM NaCl) + Hypoxia (1 days later) (Sequential stress)	51.0

Reference – Malik AI, English JP, Colmer TD (2009) Tolerance of *Hordeum marinum* accessions to O_2 deficiency, salinity and these stresses combined. Annals of Botany 103: 237-248.

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: Malik et.al. 2009, studied the interaction of hypoxia and salinity in nine 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 nine cultivars. **Thus, this stress combination is detrimental to the growth of sea barley accessions.**