# Effect on wheat genotypes (*Triticum aestivum* genotype Kouhdasht, Tajan)

**The net impact of individual and combined stress on plant growth**

Crop: Wheat (*Triticum aestivum* genotype Kouhdasht, Tajan)
Stress 1: Salinity (10 dS m-1)
Stress 2: Waterlogging
Stage of plant: Stem elongation stage, Booting stage, Grain filling stage, Tillering stage

**The table shows the effect of waterlogging and salt alone and in combination on the growth and yield of wheat cultivars.**

| Cultivar | Stage | Treatment | Plant response to stress** Type A parameters* | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Grain yield (g) | 1000 grain weight (g) | Number of tillers | Number of spikes/plant | Spike length (cm) | Harvest index |
| Kouhdasht | Tillering | Waterlogging | 51.5 | 38.5 | 6.9 | 5.7 | 11.9 | 51.60 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 32.6 | 26.7 | 3.6 | 3.6 | 11.3 | 33.10 |
| | Stem elongation | Waterlogging | 46.9 | 34.9 | 6.9 | 5.2 | 11.5 | 47.10 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 28.6 | 25.2 | 3.9 | 3.0 | 11.0 | 28.60 |
| | Booting | Waterlogging | 42.3 | 33.2 | 7.2 | 4.6 | 11.0 | 42.60 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 27.1 | 22.4 | 4.3 | 3.0 | 10.8 | 27.10 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Grain filling | Waterlogging | 35.6 | 26.8 | 7.0 | 6.0 | 11.8 | 36.10 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 23.5 | 20.2 | 4.7 | 4.1 | 10.5 | 24.10 |
| Tajan | Tillering | Waterlogging | 51.4 | 41.7 | 7.2 | 5.7 | 11.9 | 51.60 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 27.4 | 24.1 | 2.0 | 2.1 | 11.3 | 27.10 |
| | Stem elongation | Waterlogging | 46.9 | 36.8 | 6.9 | 5.4 | 11.4 | 47.70 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 26.2 | 23.3 | 2.3 | 1.9 | 11.0 | 26.80 |
| | Booting | Waterlogging | 43.8 | 34.2 | 7.3 | 4.9 | 11.0 | 44.10 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 22.5 | 22.4 | 2.6 | 1.9 | 10.7 | 23.20 |
| | Grain filling | Waterlogging | 35.6 | 28.2 | 7.3 | 6.0 | 10.8 | 36.10 |
| | | Salt (10 dS m-1) + Waterlogging (Simultaneous stress) | 20.4 | 20.2 | 4.0 | 2.4 | 10.5 | 20.80 |

**Reference** - Asgari HR, Cornelis W, Van Dammec P (2012) Wheat (*Triticum aestivum* L.) Growth and Yield as Influenced by Flooding and Salinity Stresses in Northern Iran. Desert 17: 99-104.

**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:** Asgari et.al. 2012, studied the interaction of waterlogging and salinity in two wheat cultivars kouhdasht and tajan. Plants were subjected to single and simultaneous salt and waterlogging stress treatment. Stress was initiated at various growth stages of wheat plants. Grain yield, grain weight, the number of tillers, the number of spikes, spike length, and harvest index were reduced more under combined stress in both cultivars. **Thus, this stress combination is detrimental to the growth and yield of wheat plants.**