**Project title:** Identification of salt tolerant ber (*Zizyphus mauritiana* Lam.) rootstocks in a farmer participatory mode

**Data description**: Effect of sodic water irrigation on growth and physiological relations in seedlings of *Zizyphus spinachristi*and*Zizyphus rotundifolia*

**Table 1 Effects of sodic water irrigation on plant growth in ber rootstocks**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Rootstock** | **Treatment** **(RSC; meq/l)** | **Stem length****(cm)**  | **Root length****(cm)**  | **SFW****(g)**  | **SDW****(g)**  | **RFW****(g)**  | **RDW****(g)**  |
| ***Z. spinachristi*** | Control | 98.7a | 41.3 | 92.7a | 45.0a | 75.3a | 46.0a |
|  | 3.0 | 88.7b | 40.3 | 86.7b | 40.0b | 61.0b | 40.7b |
|  | 6.0 | 88.3b | 38.0 | 81.7c | 37.0bc | 48.3c | 30.7c |
|  | 9.0 | 84.0b | 36.7 | 75.7d | 33.7c | 44.7c | 27.7d |
|  | LSD at 5% | 5.8 | NS | 2.6 | 4.6 | 5.9 | 2.2 |
| ***Z. rotundifolia*** | Control | 86.0a | 27.3 | 86.7a | 48.0a | 76.0a | 42.7a |
|  | 3.0 | 83.0a | 29.3 | 81.0b | 45.3a | 79.3a | 40.7a |
|  | 6.0 | 74.0b | 27.7 | 75.0c | 39.7b | 66.0b | 33.3b |
|  | 9.0 | 68.7b | 23.3 | 63.0d | 27.3c | 54.0c | 23.0c |
|  | LSD at 5% | 6.5 | NS | 3.3 | 4.4 | 4.1 | 4.2 |

Means (n=3) with at least one letter common are not statistically significant using Fisher's Least Significant Difference. Note: SFW- Shoot fresh weight, SDW- Shoot dry weight, RFW- Root fresh weight, RDW- Root dry weight.

**Table 2 Effects of sodic water irrigation on leaf chlorophyll, chlorophyll florescence, proline and total soluble proteins in ber rootstocks.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rootstock** | **Treatment** **(RSC; meq/l)** | **SPAD** | **Total Chl.****(mg/gFW)** | **CF** | **Proline****(mg/g FW)** | **TSP****(mg/g FW)** |
| *Z. spinachristi* | Control | 47.1a | 0.19a | 0.64a | 0.55c | 17.3a |
|  | 3.0 | 40.9b | 0.16b | 0.61b | 0.62c | 15.3b |
|  | 6.0 | 36.8bc | 0.16b | 0.57c | 0.93b | 10.1c |
|  | 9.0 | 35.2c | 0.14c | 0.52d | 1.21a | 4.2d |
|  | LSD at 5% | 4.2 | 0.01 | 0.02 | 0.11 | 1.7 |
| *Z. rotundifolia* | Control | 45.8a | 0.19 | 0.62a | 0.55c | 16.3a |
|  | 3.0 | 40.9b | 0.16 | 0.61b | 0.68bc | 14.2b |
|  | 6.0 | 37.6bc | 0.14 | 0.60b | 0.86ab | 13.5c |
|  | 9.0 | 35.8c | 0.13 | 0.57c | 1.07a | 9.0d |
|  | LSD at 5% | 4.04 | NS | 0.01 | 0.22 | 0.65 |

Means (n=3) with at least one letter common are not statistically significant using Fisher's Least Significant Difference. Note: Chl.- Chlorophyll, CF- Chlorophyll fluorescence, TSP- Total soluble proteins.

**Table 3 Effects of sodic water irrigation on Na+ and K+ (%DW) partitioning in different plant parts in jujube rootstocks.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Rootstock** | **Treatment****(RSC; meq/l)** | **Leaf** | **Stem** | **Root** |
| **Na+** | **K+** | **Na: K****ratio** | **Na+** | **K+** | **Na: K****ratio** | **Na+** | **K+** | **Na: K****ratio** |
| *Z. spina-christi* | Control | 0.33d | 2.1a | 0.16d | 0.11d | 1.7a | 0.06d | 0.29d | 2.6a | 0.11d |
|  | 3.0 | 0.39c | 1.9b | 0.21c | 0.15c | 1.4b | 0.11c | 0.44c | 1.4b | 0.31c |
|  | 6.0 | 0.46b | 1.2c | 0.37b | 0.29b | 0.9c | 0.31b | 0.54b | 0.9c | 0.57b |
|  | 9.0 | 0.56a | 1.2c | 0.47a | 0.34a | 0.8d | 0.44a | 0.94a | 0.9c | 1.10a |
|  | LSD at 5% | 0.01 | 0.15 | 0.03 | 0.02 | 0.09 | 0.03 | 0.04 | 0.12 | 0.04 |
| *Z. rotundifolia* | Control | 0.24d | 2.0a | 0.12d | 0.31d | 1.9a | 0.17c | 0.38c | 1.8a | 0.22c |
|  | 3.0 | 0.26c | 1.6b | 0.16c | 0.37c | 1.6b | 0.24c | 0.40bc | 1.4b | 0.28c |
|  | 6.0 | 0.32b | 1.6b | 0.20b | 0.43b | 1.3c | 0.34b | 0.45b | 1.2c | 0.38b |
|  | 9.0 | 0.39a | 1.3c | 0.30a | 0.47a | 0.8d | 0.58a | 0.70a | 0.9d | 0.75a |
|  | LSD at 5% | 0.01 | 0.21 | 0.03 | 0.02 | 0.19 | 0.08 | 0.06 | 0.16 | 0.09 |

Means (n=3) with at least one letter common are not statistically significant using Fisher's Least Significant Difference.

**Table 4 Effects of sodic water irrigation on Ca2+ and Cl- (% DW) partitioning in ber rootstocks.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Rootstock** | **Treatment****(RSC; meq/l)** | **Ca2+** | **Cl-**  |
| **Leaf** | **Stem** | **Root** | **Leaf** | **Stem** | **Root** |
| *Z. spina-christi* | Control | 1.05a | 0.44a | 0.61a | 2.01c | 3.31b | 3.20c |
|  | 3.0 | 0.88b | 0.33b | 0.55b | 2.72b | 3.40b | 4.50b |
|  | 6.0 | 0.84b | 0.31b | 0.32c | 3.20b | 4.14a | 5.33a |
|  | 9.0 | 0.63c | 0.25c | 0.29d | 4.38a | 4.38a | 5.54a |
|  | LSD at 5% | 0.07 | 0.04 | 0.01 | 0.49 | 0.62 | 0.65 |
| *Z. rotundifolia* | Control | 0.76a | 0.49c | 0.79a | 1.54c | 2.49b | 2.84c |
|  | 3.0 | 0.70b | 0.64b | 0.76a | 1.89c | 2.60b | 4.14b |
|  | 6.0 | 0.59c | 0.72ab | 0.70ab | 2.37b | 3.33a | 4.50ab |
|  | 9.0 | 0.57c | 0.75a | 0.63b | 2.96a | 3.79a | 4.97a |
|  | LSD at 5% | 0.04 | 0.09 | 0.1102 | 0.46 | 0.49 | 0.66 |

Means (n=3) with at least one letter common are not statistically significant using Fisher's Least Significant Difference.

**Acknowledgements**

This study was funded by RKVY, Haryana. Authors are thankful to Director, ICAR-CSSRI, Karnal for providing the logistic support.