**Supplementary files**

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**Supplementary Figure S1:** Effects of different concentrations of NO and salinity on SDW (A, B) and RDW (C, D) of different plant species.

**Supplementary Table 1:** List of published research articles used for data extraction in this meta-analysis.

1. Adamu TA, Mun BG, Lee SU, Hussain A, Yun BW. Exogenously applied nitric oxide enhances salt tolerance in rice (Oryza sativa L.) at seedling stage. Agronomy. 2018 Dec;8(12):276.
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3. Ahmad P, Abdel Latef AA, Hashem A, Abd\_Allah EF, Gucel S, Tran LS. Nitric oxide mitigates salt stress by regulating levels of osmolytes and antioxidant enzymes in chickpea. Frontiers in Plant Science. 2016 Mar 31;7:347.
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5. Ali Q, Daud MK, Haider MZ, Ali S, Rizwan M, Aslam N, Noman A, Iqbal N, Shahzad F, Deeba F, Ali I. Seed priming by sodium nitroprusside improves salt tolerance in wheat (Triticum aestivum L.) by enhancing physiological and biochemical parameters. Plant physiology and biochemistry. 2017 Oct 1;119:50-8.
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7. Babri-Bonab R, Saadatmand S, Nazemiyeh H, Iran-Bakhsh A. The effect of different concentrations of exogenous nitric oxide on several physiological and biochemical parameters in NaCl-stressed coriander (Coriandrum sativum L.). Iranian Journal of Plant Physiology. 2018 Aug 1;8(4):2517-24.
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10. Campos FV, Oliveira JA, Pereira MG, Farnese FS. Nitric oxide and phytohormone interactions in the response of Lactuca sativa to salinity stress. Planta. 2019 Nov;250(5):1475-89.
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13. Dinler BS, Antoniou C, Fotopoulos V. Interplay between GST and nitric oxide in the early response of soybean (Glycine max L.) plants to salinity stress. Journal of plant physiology. 2014 Nov 15;171(18):1740-7.
14. Dong YJ, Jinc SS, Liu S, Xu LL, Kong J. Effects of exogenous nitric oxide on growth of cotton seedlings under NaCl stress. Journal of soil science and plant nutrition. 2014 Mar;14(1):1-3.
15. Dong YJ, Wang ZL, Zhang JW, Liu S, He ZL, He MR. Interaction effects of nitric oxideand salicylic acid in alleviating salt stress of Gossypium hirsutum L. Journal of soil science and plant nutrition. 2015 Sep;15(3):561-73.
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19. Fan H, Guo S, Jiao Y, Zhang R, Li J. Effects of exogenous nitric oxide on growth, active oxygen species metabolism, and photosynthetic characteristics in cucumber seedlings under NaCl stress. Frontiers of Agriculture in China. 2007 Jul 1;1(3):308-14.
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**Supplementary Table 2:** Comparative effects of different salinity levels on shoot and root biomass production in NO-treated plants

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Parameters** | **Salinity level** | **SMD** | **L95%CI** | **U95%CI** | **p-value** | **Welch t-test** *p*=0.661 |
| **SDW** | Low salinity | 0.6818 | 0.1430 | 1.2207 | 0.0150 | *p*=0.697 |
|  | Moderate salinity | 0.9566 | 0.6227 | 1.2905 | <0.0001 | *p*=0.661 |
|  | High salinity | 0.6424 | -0.1474 | 1.4322 | 0.1058 | *p*=0.386 |
| **RDW** | Low salinity | 0.7973 | 0.2274 | 1.3671 | 0.0082 | *p*=0.932 |
|  | Moderate salinity | 0.6001 | 0.0737 | 1.1264 | 0.0268 | *p*=0.418 |
|  | High salinity | 0.7541 | 0.2563 | 1.2519 | 0.0048 |  |

**Supplementary Table 3:** Heterogeneity statistics for the growth-related traits summary effect sizes under non-saline and saline stress conditions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Para-meters** | **Salinity level** | ***tau2*** | ***tau*** | ***I2*** | **H** | **Q; d.f.** ***p* value** |
| **RL** | **Non-saline** | 0.8382[0.2671; 13.5334] | 0.9155 [0.5168; 3.6788] | 51.1% [17.2%; 71.1%] | 1.43 [1.10; 1.86] | 36.80; 18 0.0056 |
|  | **Saline** | 0.0400 [0.0836; 7.4025] | 0.1999 [0.2892; 2.7208] | 42.1% [7.7%; 63.7%] | 1.31 [1.04; 1.66] | 43.19; 25 0.0133 |
| **SL** | **Non-saline** | <0.0001 [0.0000; 1.0603] | 0.0016 [0.0000; 1.0297] | 0.0% [0.0%; 37.1%] | 1.00 [1.00; 1.26] | 28.49; 300.5445 |
|  | **Saline** | <0.0001 [0.0000; 1.4527] | 0.0008 [0.0000; 1.2053] | 21.0% [0.0%; 42.4%] | 1.13[1.00; 1.32] | 81.00; 640.0743 |
| **SDW** | **Non-saline** | <0.0001 [0.0132; 2.0166] | 0.0019 [0.1147; 1.4201] | 31.2% [1.9%; 51.7%] | 1.21 [1.01; 1.44] | 69.75; 480.0218 |
|  | **Saline** | 0.6198 [0.3832; 1.8339] | 0.7872 [0.6190; 1.3542] | 42.0% [25.0%; 55.2%] | 1.31[1.15; 1.49] | 148.34; 86 <0.0001 |
| **RDW** | **Non-saline** | 0.2915 [0.1037; 1.6143] | 0.5399 [0.3220; 1.2706] | 36.0% [10.1%; 54.4%] | 1.25[1.05; 1.48] | 79.67; 510.0063 |
|  | **Saline** | 0.3631[0.1851; 1.6035] | 0.6026 [0.4303; 1.2663] | 35.4% [14.6%; 51.1%] | 1.24[1.08; 1.43] | 119.12; 770.0015 |
| **Yield** | **Non-saline** | 0 [<0.00; <0.00] | 0 [<0.000; <0.000] | 0.0% [0.0%; 0.0%] | 1.00 [1.00; 1.00] | 3.82; 241.0000 |
|  | **Saline** | < 0.0001 [0.3851; 5.4415] | 0.0027 [0.6205; 2.3327] | 45.9% [19.1%; 63.9%] | 1.36 [1.11; 1.66] | 61.04; 330.0021 |

Q, total heterogeneity; *p*, significance of Q heterogeneity; *I2*, percentage of heterogeneity due to true variation in effect sizes.