Table 4 Effect of seed priming on shoot length and root length of cucumber (*Cucumis sativus* cv. Bhaktapur Local) in Syangja, Nepal, 2024

| Treatments | Shoot length (cm) | Root length (cm) |
|---|---|---|
| Control | 9.42 | 15.49$^{c}$ |
| Hot water (45 °C for 5 minutes) | 9.91 | 20.09$^{ab}$ |
| $GA_3$ 100 ppm | 9.14 | 17.08$^{bc}$ |
| $GA_3$ 200 ppm | 9.56 | 21.15$^{a}$ |
| $KNO_3$ 1% | 10.81 | 17.76$^{bc}$ |
| $KNO_3$ 3% | 8.79 | 16.67$^{c}$ |
| Cow urine 5% | 9.89 | 16.56$^{c}$ |
| Cow urine 10% | 9.75 | 17.26$^{bc}$ |
| Vermiwash 10% | 9.85 | 15.75$^{c}$ |
| Vermiwash 20% | 9.53 | 16.62$^{c}$ |
| CV (%) | 6.36 | 9.57 |
| $LSD_{0.05}$ | 1.04 | 2.84 |
| Grand mean | 9.66 | 17.44 |
| SEm (±) | 0.35 | 0.96 |
| F-test | NS | ** |

Note: Mean within the column followed by the same letter/s are not significantly different at 5% level of significance by DMRT. * Significant at 5% ($p$<0.05), ** Significant at 1% ($p$<0.01), *** Significant at 0.1% ($p$<0.001), NS= non-significant at 5% ($p$>0.05), SEm= Standard Error of mean, LSD= Least significant difference, CV= Coefficient of variance

Table 5 Effect of seed priming on fresh shoot and fresh root weight per seedling of cucumber (*Cucumis sativus* cv. Bhaktapur Local) in Syangja, Nepal, 2024

| Treatments | Fresh shoot weight (g) | Fresh root weight (g) |
|---|---|---|
| Control | 2.79 | 0.35$^{b}$ |
| Hot water (45 °C for 5 minutes) | 2.84 | 0.51$^{a}$ |
| $GA_3$ 100 ppm | 2.79 | 0.30$^{bc}$ |
| $GA_3$ 200 ppm | 2.76 | 0.35$^{b}$ |
| $KNO_3$ 1% | 3.11 | 0.30$^{bc}$ |
| $KNO_3$ 3% | 2.58 | 0.37$^{b}$ |
| Cow urine 5% | 3.09 | 0.50$^{a}$ |
| Cow urine 10% | 3.01 | 0.45$^{a}$ |
| Vermiwash 10% | 2.52 | 0.25$^{cd}$ |
| Vermiwash 20% | 2.62 | 0.21$^{d}$ |
| CV (%) | 10.95 | 11.06 |
| $LSD_{0.05}$ | 0.52 | 0.06 |
| Grand mean | 2.81 | 0.36 |
| SEm (±) | 0.17 | 0.02 |
| F-test | NS | *** |

Note: Mean within the column followed by the same letter/s are not significantly different at 5% level of significance by DMRT. * Significant at 5% ($p$<0.05), ** Significant at 1% ($p$<0.01), *** Significant at 0.1% ($p$<0.001), NS= non-significant at 5% ($p$>0.05), SEm= Standard Error of mean, LSD= Least significant difference, CV= Coefficient of variance

Fresh root weight was very highly significant for different priming techniques. Significantly, the highest fresh root weight (0.51 g) was found in hot water which was not significantly different from Cow urine 5% (0.50 g) and Cow urine 10% (0.45 g), while the lowest fresh root weight was found in Vermiwash 20% (0.21 g). Similar finding was reported by Tania et al. (2019). Rehydration causes early emergence by influencing pre-germinative process for germination (Tania et al., 2019).