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Potassium iodide influence on iodine-leaf concentration and growth of amaranth (*Amaranthus cruentus* L.)

Eifediyi, E. K., Idowu, S. A; Ogedegbe, F.O., Agbede, T. M., & Kareem, I.

Annex 1: Effect of different rates of foliar and soil applied potassium iodide (KI) on plant height of amaranth at 4, 5, 6 and 7 weeks after sowing (WAS) in a field experiment near Ilorin, Nigeria across two seasons (2017 and 2018).

| Treatments | KI Rate kg ha ⁻¹ | 4 WAS | | 5 WAS | | 6 WAS | | 7 WAS | |
|-----------------|--------------------------------|--------------------|---------------------|-------|---------------------|-------|--------------------|-------|---------------------|
| | | Seasons | | | | | | | |
| | | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Control | 0 | 16.07 ^d | 15.33 ^d | 26.10 | 21.53 ^d | 54.70 | 51.00 ^b | 74.40 | 67.30 ^{ab} |
| Foliar | 3.5 | 17.89 ^c | 22.67 ^{bc} | 31.20 | 29.97 ^b | 63.60 | 46.70 ^b | 84.10 | 59.0 ^b |
| Foliar | 7.0 | 18.81 ^b | 22.67 ^{bc} | 32.30 | 31.53 ^{ab} | 77.40 | 50.30 ^b | 98.10 | 57.70 ^b |
| Foliar | 10.5 | 17.89 ^c | 27.33 ^a | 27.00 | 34.97 ^a | 59.70 | 57.30 ^b | 82.00 | 73.30 ^a |
| Foliar | 14.0 | 19.40 ^a | 25.67 ^{ab} | 32.90 | 34.40 ^a | 78.70 | 69.70 ^a | 103.1 | 73.30 ^a |
| Soil | 2.0 | 17.00 ^c | 19.67 ^c | 30.70 | 26.73 ^b | 57.00 | 43.00 ^c | 81.40 | 57.30 ^b |
| Soil | 4.0 | 17.81 ^c | 20.00 ^c | 31.30 | 28.07 ^b | 67.70 | 49.30 ^b | 89.40 | 66.00 ^b |
| Soil | 8.0 | 15.73 ^d | 19.67 ^c | 27.20 | 27.10 ^b | 50.20 | 51.70 ^b | 77.00 | 62.30 ^{ab} |
| Soil | 16.0 | 17.66 ^c | 22.33 ^c | 32.20 | 31.00 ^{ab} | 67.90 | 35.70 ^d | 95.70 | 47.70 ^c |
| s.e.d. (p<0.05) | | 0.537 | 3.231 | NS | 3.925 | NS | 7.12 | NS | 11.62 |

s.e.d.: Standard error of difference; NS: not significant; mean followed by the same letter(s) do not differ from each other

Annex 2: Effect of different rates of foliar and soil applied potassium iodide (KI) on the number of leaves of amaranth at 4, 5, 6 and 7 WAS in a field experiment near Ilorin, Nigeria across two seasons (2017 and 2018).

| Treatments | KI Rate (kg ha ⁻¹) | 4 WAS | | 5 WAS | | 6 WAS | | 7 WAS | |
|---------------|-----------------------------------|---------|--------|-------|---------|-------|---------|---------|----------|
| | | Seasons | | | | | | | |
| | | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Control | 0 | 10.57 | 9.33b | 15.67 | 14.00b | 30.70 | 35.00b | 32.10c | 44.70a |
| Foliar | 3.5 | 11.11 | 10.00b | 18.48 | 13.67b | 33.40 | 29.70bc | 23.50e | 29.00cde |
| Foliar | 7.0 | 11.64 | 9.33b | 22.07 | 13.33b | 39.90 | 29.30bc | 25.70de | 34.00cd |
| Foliar | 10.5 | 11.25 | 11.00b | 18.46 | 14.67b | 31.50 | 48.00a | 27.90d | 46.70a |
| Foliar | 14.0 | 11.83 | 13.67a | 22.09 | 19.67a | 41.90 | 48.00a | 23.90e | 33.00bcd |
| Soil | 2.0 | 10.83 | 8.33bc | 17.16 | 12.33bc | 31.70 | 35.30b | 38.90b | 30.30bcd |
| Soil | 4.0 | 10.80 | 9.00bc | 21.00 | 13.67b | 35.70 | 29.30bc | 41.50a | 35.00b |
| Soil | 8.0 | 11.13 | 10.00b | 18.20 | 14.67b | 31.70 | 29.70bc | 39.70b | 35.00b |
| Soil | 16.0 | 10.78 | 7.33c | 23.00 | 10.67c | 36.90 | 23.00c | 43.33a | 26.00e |
| s.e.d(p<0.05) | | NS | 1.76 | NS | 2.38 | NS | 8.14 | 3.41 | 4.99 |

s.e.d.: Standard error of difference; NS: not significant; mean followed by the same letter(s) do not differ from each other

Annex 3: Effect of different rates of foliar and soil applied potassium iodide (KI) on the leaf area (m²) of amaranth at 4, 5, 6 and 7 WAS in a field experiment near Ilorin (Nigeria) across two seasons (2017 and 2018).

| Treatments | KI Rate kg ha ⁻¹ | 4 WAS | | 5 WAS | | 6 WAS | | 7 WAS | |
|---------------|--------------------------------|---------|--------|---------|-------|-------|------|--------|--------|
| | | Seasons | | | | | | | |
| | | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Control | 0 | 0.30 | 0.23bc | 0.64d | 0.82b | 1.52 | 1.53 | 2.02bc | 2.00b |
| Foliar | 3.5 | 0.32 | 0.25bc | 0.70cd | 0.84b | 1.72 | 2.04 | 1.53d | 2.16b |
| Foliar | 7.0 | 0.38 | 0.26bc | 0.81abc | 0.72c | 1.93 | 1.74 | 1.71c | 1.76b |
| Foliar | 10.5 | 0.33 | 0.27bc | 0.72cd | 0.67c | 1.85 | 1.98 | 1.42d | 1.75b |
| Foliar | 14.0 | 0.38 | 0.34ab | 0.91ab | 0.67c | 1.60 | 1.04 | 1.38d | 1.35c |
| Soil | 2.0 | 0.37 | 0.25bc | 0.70cd | 0.73c | 1.66 | 1.71 | 2.36ab | 2.13b |
| Soil | 4.0 | 0.40 | 0.32ab | 0.90ab | 1.01b | 2.10 | 2.24 | 2.67a | 2.75ab |
| Soil | 8.0 | 0.35 | 0.37a | 0.95a | 1.02b | 2.19 | 2.39 | 2.88a | 3.04a |
| Soil | 16.0 | 0.45 | 0.47a | 1.08a | 1.24a | 2.06 | 2.05 | 2.43ab | 2.27b |
| s.e.d(p<0.05) | | NS | 0.091 | 0.14 | 0.21 | NS | NS | 0.35 | 0.52 |

s.e.d.: Standard error of difference; NS: not significant; mean followed by the same letter(s) do not differ from each other