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Supplementary Material

Selenium application methods and rates for biofortification of common bean and their residual effects on Mombaça grass

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Table S1. Mean values and their standard deviations for dry weight production of common bean plant parts (stalk, leaf, pod, and grain) in all treatments (Se application methods and Se rates)*.

Se application methods	Se rates (mg dm ⁻³)				
	0	0.2	0.4	0.6	0.8
	Stalk (g pot ⁻¹)				
Se-enriched MAP	14.5 ±1.6	16.0 ±1.3	15.0 ±0.4	14.7 ±0.8	14.8 ±0.6
Se-Foliar Application	14.5 ±1.6	15.4 ±1.1	14.5 ±0.4	15.6 ±0.9	14.1 ±1.3
Se-enriched UREA	14.5 ±1.6	15.1 ±0.7	14.4 ±0.4	14.0 ±0.7	14.7 ±0.6
Se-enriched MAP + Se-Foliar Application	14.5 ±1.6	15.5 ±1.4	13.3 ±1.4	14.4 ±1.5	15.1 ±0.3
Se-enriched MAP + Se-enriched UREA	14.5 ±1.6	15.4 ±0.6	14.1 ±0.7	14.7 ±1.4	14.3 ±2.1
Se-enriched UREA + Se-Foliar Application	14.5 ±1.6	14.8 ±2.3	15.0 ±0.7	13.0 ±1.5	15.4 ±2.4
	Leaf (g pot ⁻¹)				
Se-enriched MAP	21.2 ±2.9	27.4 ±2.0	23.9 ±0.3	18.7 ±3.4	24.5 ±4.3
Se-Foliar Application	21.2 ±2.9	25.2 ±4.2	23.1 ±4.4	27.3 ±5.7	27.1 ±3.4
Se-enriched UREA	21.2 ±2.9	25.5 ±3.8	25.2 ±4.3	24.3 ±5.1	25.3 ±4.9
Se-enriched MAP + Se-Foliar Application	21.2 ±2.9	26.4 ±1.1	24.5 ±5.5	25.2 ±7.4	24.3 ±4.7
Se-enriched MAP + Se-enriched UREA	21.2 ±2.9	25.8 ±4.5	21.8 ±7.3	22.2 ±2.8	25.0 ±6.2
Se-enriched UREA + Se-Foliar Application	21.2 ±2.9	23.0 ±2.6	26.7 ±6.4	24.5 ±6.3	23.4 ±4.0
	Pod (g pot ⁻¹)				
Se-enriched MAP	21.3 ±0.7	21.2 ±0.6	20.6 ±1.5	20.9 ±0.6	21.1 ±1.9
Se-Foliar Application	21.3 ±0.7	21.2 ±0.3	20.0 ±1.0	19.8 ±1.6	19.2 ±0.8
Se-enriched UREA	21.3 ±0.7	21.1 ±0.7	20.4 ±1.3	20.1 ±0.9	22.0 ±0.5
Se-enriched MAP + Se-Foliar Application	21.3 ±0.7	21.1 ±0.4	20.9 ±0.2	20.9 ±2.0	20.7 ±0.9
Se-enriched MAP + Se-enriched UREA	21.3 ±0.7	20.2 ±0.4	21.3 ±1.2	21.0 ±1.6	21.6 ±1.2
Se-enriched UREA + Se-Foliar Application	21.3 ±0.7	20.6 ±1.2	22.0 ±0.6	20.9 ±1.5	21.1 ±2.2
	Grain (g pot ⁻¹)				
Se-enriched MAP	47.6 ±3.8	51.2 ±0.9	45.8 ±5.0	47.3 ±3.5	48.7 ±1.7
Se-Foliar Application	47.6 ±3.8	48.9 ±0.5	47.8 ±2.8	49.9 ±1.5	45.6 ±2.9
Se-enriched UREA	47.6 ±3.8	52.4 ±2.1	49.7 ±1.3	51.4 ±2.3	51.6 ±3.0
Se-enriched MAP + Se-Foliar Application	47.6 ±3.8	51.9 ±2.1	50.1 ±4.5	48.3 ±3.7	46.7 ±1.8
Se-enriched MAP + Se-enriched UREA	47.6 ±3.8	51.2 ±1.9	54.0 ±1.1	47.6 ±2.0	48.1 ±2.5
Se-enriched UREA + Se-Foliar Application	47.6 ±3.8	49.5 ±2.4	50.9 ±0.8	51.2 ±0.6	48.2 ±4.8

* Treatments did not statistically influence dry weight production as reported in table 3.

Table S2. Mean values and their standard deviations for dry weight production of Mombaça grass shoots in all treatments (Se application methods and Se rates)*.

Se application methods	Se rates (mg dm ⁻³)				
	0	0.2	0.4	0.6	0.8
Se-enriched MAP	22.5 ±3.0	23.8 ±1.8	21.7 ±2.1	21.7 ±1.7	22.7 ±2.1
Se-enriched UREA	22.5 ±3.0	20.6 ±1.7	20.8 ±2.4	24.0 ±1.0	22.2 ±1.6
Se-enriched MAP + Se-Foliar Application	22.5 ±3.0	16.9 ±5.0	22.9 ±1.6	22.3 ±2.5	18.5 ±7.1
Se-enriched MAP + Se-enriched UREA	22.5 ±3.0	22.1 ±0.6	21.9 ±1.2	21.8 ±1.1	17.5 ±4.8
Se-enriched UREA + Se-Foliar Application	22.5 ±3.0	20.3 ±6.3	23.0 ±2.2	22.5 ±0.8	23.7 ±1.8

* Treatments did not statistically influence dry weight production as reported in table 4.

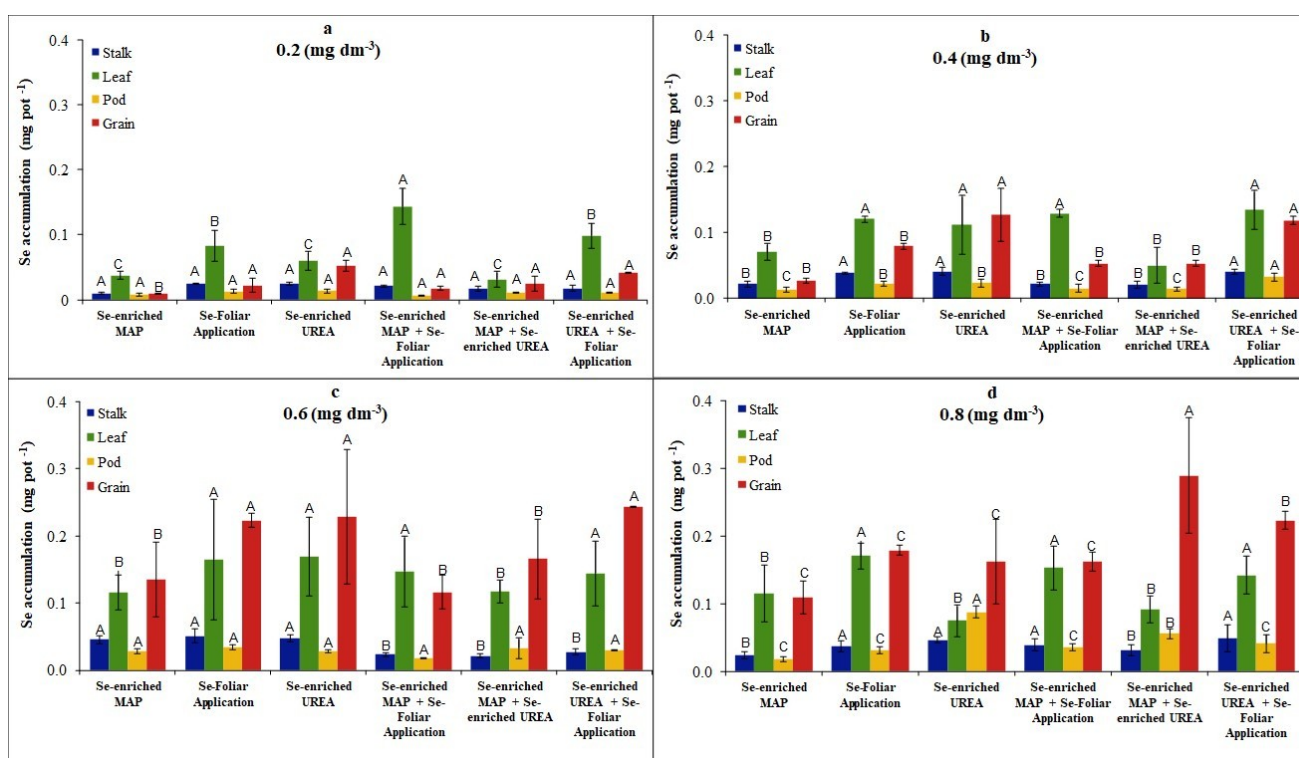


Fig. S1. Selenium accumulation (mg pot⁻¹) in different tissues of common bean plants (grain, pod, leaf, and stalk) for each of the studied Se rates. 3a) Se rate added = 0.2 mg dm⁻³; 3b) Se rate added = 0.4 mg dm⁻³; 3c) Se rate added = 0.6 mg dm⁻³; 3d) Se rate added = 0.8 mg dm⁻³. Standard deviations of Se accumulation mean values for each plant tissue are presented.



Fig. S2. Photos showing the studied plants in the greenhouse. a) Common bean plants (*Phaseolus vulgaris* L. - cv. FC104/EMBRAPA; b) Mombaça grass plants (*Panicum maximum* - cv. Mombaça).