

Article

Effect of Fertilisation with Ash from Biomass Combustion on the Mechanical Properties of Potato Tubers (*Solanum tuberosum* L.) Grown in Two Types of Soil

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Table S1. Mineral composition of ash from biomass combustion ($\text{mg} \cdot \text{kg}^{-1}$).

Element	Total forms	Available forms*
	$\text{mg} \cdot \text{kg}^{-1}$	
Ca	145081	-
Cd	2.682	0.972
Co	1.068	0.502
Cr	448.39	32.08
Cu	535.6	157.25
Fe	4351	22.89
Hg	<0.01	-
K	129617	187.75
Mg	13512	76.4
Mn	1490	263.5
Na	1452	-
Ni	20.30	4.59
P	9244	15.06
Pb	129.5	3.39
Zn	423.0	394.6

*Available forms of P and K - in 0.4 M $\text{CH}_3\text{CHO}\cdot\text{H}\cdot\text{COO})_2\text{Ca}$ solution pH=3.6; Available forms of Mg - in 0.1 M CaCl_2 solution; Available forms of Fe, Mn, Zn, Cu, Cr, Co, Ni, Pb, Cd – in 1M HCl solution.

Table S2. Morphological features of analysed potato tubers according to soil type and fertilization in the study years 2019-2021.

Variables		Weight of 1 tuber (g)	Dimensions (mm)			Sphericity (%)	Flattening factor W_c	Elongation factor W_a
			Length	Width	Thickness			
Gleyic Chernozem	Control	40.2±9.1*	39.4±3.9	35.8±2.1	32.6±2.9	88.9±3.0	1.17±0.04	1.31±0.06
	D1	74.9±15.1	53.7±7.7	44.7±4.5	39.3±3.6	86.0±4.1	1.18±0.03	1.32±0.05
	D2	52.1±14.3	55.4±5.1	47.9±4.1	38.6±4.0	88.1±3.7	1.18±0.01	1.28±0.10
	D3	62.3±22.0	56.0±11.4	46.8±7.6	38.5±4.8	85.7±4.1	1.19±0.01	1.34±0.05
	D4	63.9±22.0	55.7±7.8	48.4±3.4	39.7±4.5	87.0±5.3	1.17±0.05	1.35±0.14
	D5	62.0±18.0	48.6±4.7	43.5±4.8	37.1±3.8	87.1±2.2	1.20±0.07	1.36±0.05

Haplic Luvisol	2020	D6	71.2±19.1	46.0±6.6	42.4±5.3	37.1±4.4	87.0±4.6	1.21±0.03	1.41±0.04
		Control	76.6±15.3	51.6±7.2	37.5±3.2	38.0±5.8	78.2±2.9	1.09±0.01	1.52±0.05
		D1	84.3±20.0	66.4±4.4	44.4±3.0	42.0±4.1	74.9±2.7	1.11±0.02	1.60±0.11
		D2	87.3±14.7	57.5±5.7	39.2±2.0	40.0±4.3	75.9±4.2	1.07±0.03	1.58±0.05
		D3	98.9±12.8	58.8±5.1	41.3±4.3	41.5±5.5	76.8±2.9	1.10±0.03	1.55±0.10
		D4	125.0±45.2	57.7±6.0	39.6±1.0	42.2±6.8	75.7±4.9	1.11±0.02	1.64±0.15
		D5	106.8±23.0	66.1±2.9	43.8±2.2	43.1±4.0	75.0±2.2	1.07±0.05	1.55±0.10
	2021	D6	92.5±46.4	57.3±4.1	40.5±1.6	39.8±5.2	74.8±6.4	1.12±0.01	1.74±0.35
		Control	89.3±7.1	53.6±4.8	44.4±3.7	41.0±3.2	84.6±1.6	1.15±0.04	1.38±0.06
		D1	100.9±31.5	61.5±8.3	47.9±2.7	43.4±3.2	83.1±6.4	1.15±0.04	1.39±0.23
		D2	123.7±18.5	58.5±1.6	48.5±2.0	46.8±4.2	87.5±2.9	1.18±0.04	1.28±0.02
		D3	173.5±44.0	60.5±5.3	49.5±4.0	77.5±78.1	82.8±5.0	1.14±0.01	1.37±0.09
		D4	121.2±38.8	59.9±8.9	49.0±3.4	44.7±4.9	83.7±3.3	1.18±0.03	1.44±0.07
		D5	124.1±23.8	62.7±3.0	52.9±2.6	47.4±3.9	84.1±4.2	1.35±0.38	1.55±0.39
		D6	122.7±6.9	54.8±3.7	45.9±2.8	43.6±3.6	83.5±2.7	1.17±0.04	1.47±0.09
	2019	Control	38.7±7.3	42.1±5.2	37.9±3.7	31.1±2.4	88.3±2.6	1.15±0.03	1.27±0.08
		D1	64.4±17.7	53.5±5.9	46.1±3.7	38.2±4.0	87.9±2.3	1.17±0.04	1.41±0.15
		D2	74.0±10.4	50.8±7.6	45.2±4.9	41.2±2.4	89.9±4.2	1.16±0.04	1.35±0.08
		D3	71.0±24.9	53.4±9.3	45.9±5.9	39.1±6.0	87.3±2.3	1.20±0.04	1.43±0.15
		D4	72.9±15.9	53.2±9.3	45.9±5.5	42.3±2.5	86.4±5.9	1.14±0.04	1.32±0.14
		D5	57.5±8.8	50.2±6.1	44.6±4.8	36.2±3.3	86.7±2.3	1.20±0.04	1.34±0.06
		D6	51.1±8.0	50.4±7.9	44.6±5.5	35.4±3.5	84.5±1.7	1.19±0.04	1.30±0.14
	2020	Control	41.0±11.3	57.8±8.8	41.8±6.0	33.6±2.3	78.0±1.8	1.12±0.03	1.53±0.13
		D1	73.4±19.5	68.1±5.3	46.4±4.1	40.2±3.3	75.8±3.5	1.10±0.02	1.65±0.05
		D2	55.1±8.6	62.7±7.7	42.7±4.9	36.8±2.6	75.6±2.2	1.06±0.04	1.56±0.16
		D3	53.8±9.5	65.0±8.4	46.1±6.1	36.9±3.6	77.4±3.0	1.12±0.02	1.60±0.10
		D4	55.4±3.0	67.7±15.5	45.9±8.4	37.2±0.7	74.8±4.3	1.07±0.05	1.55±0.16
		D5	64.1±3.5	68.9±5.0	46.6±4.0	39.9±0.6	76.4±2.0	1.10±0.06	1.66±0.09
		D6	53.8±5.5	66.9±20.3	44.4±6.1	36.5±1.1	72.8±8.5	1.11±0.03	1.57±0.13
	2021	Control	67.3±13.1	56.2±4.3	46.7±3.4	39.5±3.6	84.5±1.4	1.13±0.03	1.36±0.05
		D1	80.2±14.5	62.0±9.8	49.7±4.1	41.8±1.7	84.9±7.4	1.14±0.07	1.47±0.21
		D2	82.2±7.1	61.1±4.0	53.6±5.7	43.7±1.5	89.7±0.7	1.11±0.01	1.34±0.06
		D3	88.5±16.8	68.0±10.6	56.2±8.2	41.6±4.4	85.0±3.5	1.16±0.03	1.39±0.05
		D4	92.1±24.5	63.0±7.7	51.8±6.3	43.2±3.5	83.1±2.8	1.14±0.01	1.38±0.10
		D5	101.7±16.3	69.3±15.7	59.6±15.7	45.8±2.0	83.2±6.2	1.16±0.05	1.37±0.02
		D6	70.0±13.4	61.5±7.9	50.1±5.0	40.7±2.3	81.7±2.5	1.13±0.01	1.35±0.04

* Statistics are expressed as mean values ± SD.