Supporting information

Potential for land application of biosolids-derived biochar in Australia: A review

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Table S1

References

Table S1: Variation in BDB properties as a function in pyrolysis/gasification temperature. The data were compiled using UC Davis Biochar Database (http://biochar.ucdavis.edu/) and data from published peer-reviewed articles from around the world.

Reference	T°C	Yield, %	Total Surface Area m^2/g	Total Ash Content %	Total C %	Total H %	Total N %	Total P %	pH	EC dS/m	CEC cmolc/kg	K g/kg	Na g/kg	Ca mg/kg	Mg mg/kg	Al mg/kg	Fe mg/kg
Méndez et al. (2013) [1]	400		33.4						7.8	3.04	29.9						
Méndez et al. (2013) [1]	600		37.2						8.7	1.46	11.7						
Zhao, L et al. (2013) [2]	500		71.6	61.9	26.6			0.2	8.8		168.0	0.5		6.6	0.6	1.9	2.2
Agrafioti et al. (2013) [3]	300		4.0		39.7	4.1	7.1		6.0								
Agrafioti et al. (2013) [3]	500		18.0		9.8	0.4	2.1										
Liu et al. (2014) [4]	450				21.3		3.2	1.5	8.6			13.8					
Chen et al. (2014) [5]	500		25.4	74.2	17.5	0.7	1.5	1.8	8.8		76.8	8.5	1.2	59.3	14.7	28.4	31.1
Chen et al. (2014) [5]	600		20.3	77.9	18.4	0.3	1.4	1.9	9.5		30.8	8.5	1.7	62.7	15.5	28.3	33.6
Chen et al. (2014) [5]	700		32.2	81.5	16.9	0.2	1.0	2.0	11.1		50.3	9.9	1.4	64.4	16.4	32.8	35.3
Chen et al. (2014) [5]	800		48.5	83.9	16.2	0.0	0.5	1.9	12.2		126.6	9.3	1.9	65.8	16.6	34.5	35.8
Chen et al. (2014) [5]	900		67.6	88.1	15.9	0.1	0.5	2.0	12.2		247.5	8.7	3.4	69.6	17.5	35.5	37.2
Cely et al. (2014) [6]	600		59.2	73.6					7.7	3.70	24.2						
Zhao et al. (2014) [7]	500		71.6		30.6	3.3	2.9										
Xu et al. (2014) [8]	500		71.6	61.4	27.7				8.9			5.2		65.7	6.5	19.3	22.1
Oh et al. (2015) [9]	400		19.5		31.8	3.4	4.4										
Song et al. (2014) [9]	400		0.1	52.0	22.6	2.7	3.5		7.8								
Song et al. (2014) [9]	450		2.9	55.6	18.6	2.0	2.4		8.3								
Song et al. (2014) [9]	500		3.2	57.6	17.7	1.7	2.3		9.1								
Song et al. (2014) [9]	550		13.3	58.5	19.6	1.8	2.1		10.0								
de la Rosa et al. (2014) [10]	600		67.3	69.5	17.9	1.5	2.0		6.7								
Pituello et al. (2015) [11]	250			48.6	28.3		3.8	1.7	6.9	0.69		4.2					
Pituello et al. (2015) [11]	350			58.1	27.5		3.6	2.0	7.3	0.09		4.4					
Pituello et al. (2015) [11]	450			67.0	22.5		2.8	2.2	7.2	0.13		4.9					
Pituello et al. (2015) [11]	550			73.2	20.1		2.3	2.4	7.1	0.21		4.2					
Chen et al. (2015) [12]	900			88.1	15.9	0.1	0.5		10.2		247.5			69.6	17.5		
Ojeda et al. (2015) [13]	500							5.1	10.0			9.1	3.8	89.1			42.7

Leng et al. (2015) [14]	280		12.0	68.6	18.0	1.6			6.2								
Leng et al. (2015) [14]	280		17.0	70.2	16.5	2.2			6.0								
Leng et al. (2015) [14]	260		16.0	71.9	14.1	1.5			6.6								
Liang et al. (2016) [15]	300		6.4	20.6	63.4		0.1		7.5	0.31	26.0						
Liang et al. (2016) [15]	500		174.6	22.5	76.7		0.0		10.3	0.95	15.2	1.9					
van Zveiten et al. (2010) [16]	550				21.0		0.0	5.7	7.9							11.0	
Rahman et al. (2021) [17]	600				9.1		1.4	2.1	6.4	2.18		5.6	1.0	12.4	5.6	50.2	25.8
Netherway et al. (2019) [18]	300	91.9	21.6	91.1	4.4	0.8	2.4	1.1	5.4		34.5	1.3	1.9	4.5	2.9		43.0
Netherway et al. (2019) [18]	400	89.8	24.6	92.7	3.1	0.7	2.0	1.1	5.2		38.3	1.3	2.0	5.1	3.0		43.4
Netherway et al. (2019) [18]	500	87.7	25.3	93.4	2.7	0.4	1.7	1.1	5.2		36.6	1.7	2.2	5.6	3.1		46.7
Hossain et al. (2021) [19]	300	64.7	93.9		26.7		3.9	5.1	7.1	0.46		2.2		20.4	7.2		
Hossain et al. (2010) [20]	550						2.3		8.2	1.90	35.0						
Roberts et al. (2017) [21]	300	67.5		58.4	24.5	2.9	4.0	6.6									
Roberts et al. (2017) [21]	450	52.5		73.5	19.6	1.6	3.0	8.5									
Roberts et al. (2017) [21]	600	50.2		80.8	19.8	1.0	2.7	9.3									
Roberts et al. (2017) [21]	750	48.1		79.0	19.4	0.5	2.0	10.1									
Roberts et al. (2017) [21]	300	70.1		48.6	32.8	3.6	5.4	7.9									
Roberts et al. (2017) [21]	450	49.1		68.4	25.4	1.7	3.7	11.4									
Roberts et al. (2017) [21]	600	45.5		76.6	24.7	1.0	3.1	12.4									
Roberts et al. (2017) [21]	750	44.4		80.6	24.9	0.6	2.4	11.9									
Hossain et al. (2011) [22]	300	72.3		52.8	25.6	2.6	3.3		5.3	4.12							
Hossain et al. (2011) [22]	400	63.7		63.3	20.2	1.3	2.4		4.9	4.15							
Hossain et al. (2011) [22]	500	57.9		68.2	20.3	0.9	2.1		7.3	4.70							
Hossain et al. (2011) [22]	700	52.4		72.5	20.4	0.5	1.2		12.0	2.50							
Wang et al. (2021) [23]	350	73.3	8.0	55.1	25.3	2.2	3.2		7.4								
Wang et al. (2021) [23]	450	67.1	8.8	64.4	24.3	1.7	3.0		8.1								
Wang et al. (2021) [23]	550	61.3	10.2	72.4	19.9	1.1	2.4		8.5								
Frišták et al. (2018) [24]	430				31.9	0.8		5.7	8.6	0.35							
Frišták et al. (2018) [24]	430				49.9	1.5		1.7	8.7	0.32							
Adhikari et al. (2019) [25]	400		4.0	48.6	50.1	2.4	4.5	2.0									
Adhikari et al. (2019) [25]	400		5.0	49.5	50.6	2.4	4.4	2.2									
Adhikari et al. (2019) [25]	400		13.0	49.9	49.5	2.2	4.8	2.2									
Adhikari et al. (2019) [25]	400		17.0	49.4	49.5	1.9	4.5	2.1									

Adhikari et al. (2019) [25]	500		21.0	54.7	46.7	1.4	3.9	17.0									
Adhikari et al. (2019) [25]	500		19.0	54.2	48.5	1.4	4.0	15.5									
Adhikari et al. (2019) [25]	500		39.0	56.3	47.0	1.2	3.9	16.5									
Adhikari et al. (2019) [25]	500		30.0	56.5	47.1	1.2	3.9	16.1									
Adhikari et al. (2019) [25]	600		79.5	59.1	45.5	0.9	3.4	16.1									
Adhikari et al. (2019) [25]	600		80.5	27.7	47.1	1.0	3.5	14.2									
Adhikari et al. (2019) [25]	600		95.0	29.1	46.3	0.9	3.3	19.8									
Adhikari et al. (2019) [25]	600		60.5	60.8	45.4	0.9	3.3	15.3									

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