

Supplementary

Long-Term Anaerobic Digestion of Seasonal Fruit and Vegetable Waste Using a Leach-Bed Reactor Coupled to an Upflow Anaerobic Sludge Bed Reactor

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Table S1. Composition of the fruit and vegetable waste mixtures used in this study.

	S1	S2	S3	S1	S2	S3
Fruits–Vegetables	Weight (g)			%		
Apple	100.07	100.36	100.21	5.04	5.00	5.00
Apricot		140.93			7.02	
Cabbage Leaves	80.33	60.06	40.62	4.05	2.99	2.03
Cherry			120.20			6.00
Grape			120.14			6.00
Grapefruit	100.29			5.05		
Kiwi			100.00	0.00	0.00	4.99
Lemons	20.30	60.05	80.16	1.02	2.99	4.00
Loquat		140.09			6.98	
Mandarin	120.19			6.06		
Melon			120.03	0.00		5.99
Orange	240.19			12.10		0.00
Peach		80.25	140.29	0.00	4.00	7.00
Pear	80.20	120.06	120.32	4.04	5.98	6.00
Pomegranate	30.25			1.52		
Strawberries		140.02			6.97	
Watermelon		80.32	160.02		4.00	7.99
Carrot leaves	160.00	100.43	40.13	8.06	5.00	2.00
Cauliflower leaves	100.00	80.32	40.30	5.04	4.00	2.01
Celery	60.04	40.80	20.14	3.03	2.03	1.00
Coriander	40.28	40.08	20.01	2.03	2.00	1.00
Fennel	120.60	61.94	30.02	6.08	3.09	1.50
Green onion	160.00	100.23	40.21	8.06	4.99	2.01
Parsley	80.29	60.06	30.04	4.05	2.99	1.50
Broccoli	80.16	60.18		4.04	3.00	
Courgette	60.31	60.15	60.46	3.04	3.00	3.02
Cucumber	40.17	60.01	100.14	2.02	2.99	5.00
Eggplant	40.04	40.00	80.12	2.02	1.99	4.00
Green beans	50.13			2.53		
lettuce		60.04	40.03		2.99	2.00
Peas (with green cover)		80.08			3.99	
Pepper	40.28	41.08	80.04	2.03	2.05	3.99
Potato	40.21	160.05	40.02	2.03	7.97	2.00
Tomato	140.06	40.07	280.03	7.06	2.00	13.98
Sum	1984.38	2007.69	2003.67	100.00	100.00	100.00

S1: autumn/winter, S2: spring, S3: summer.

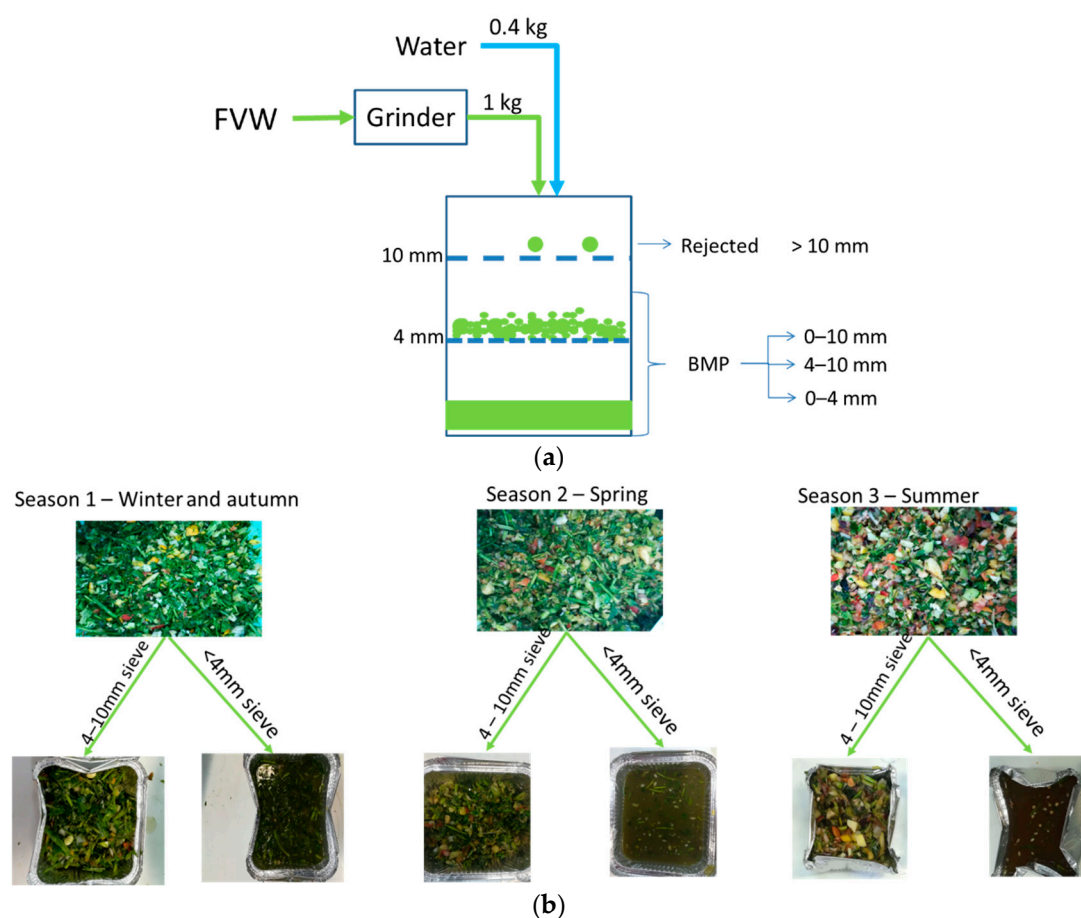


Figure S1. FVW fractionation: (a) schematic presentation of the procedure followed; (b) photographs of the fractions taken from the seasonal FVW mixtures.

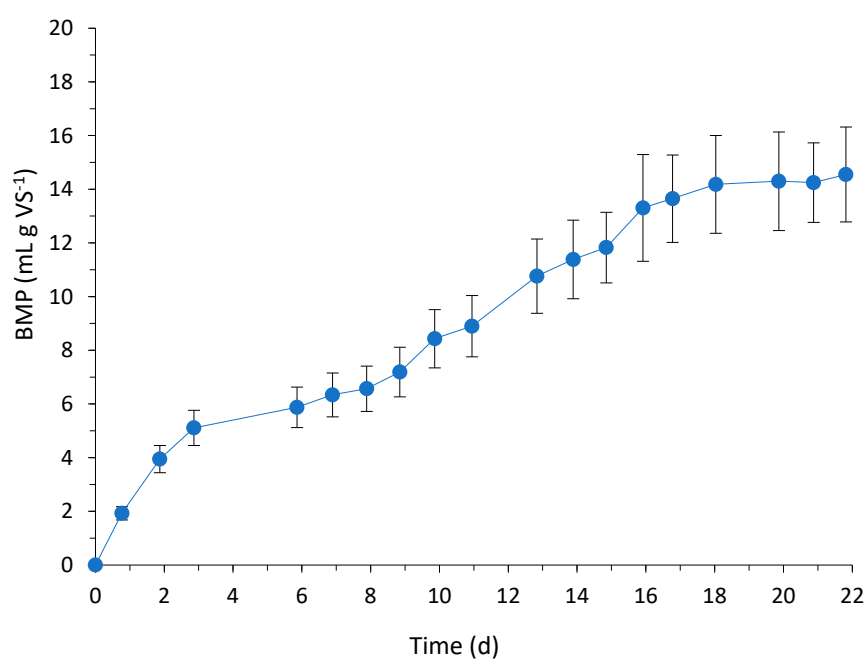
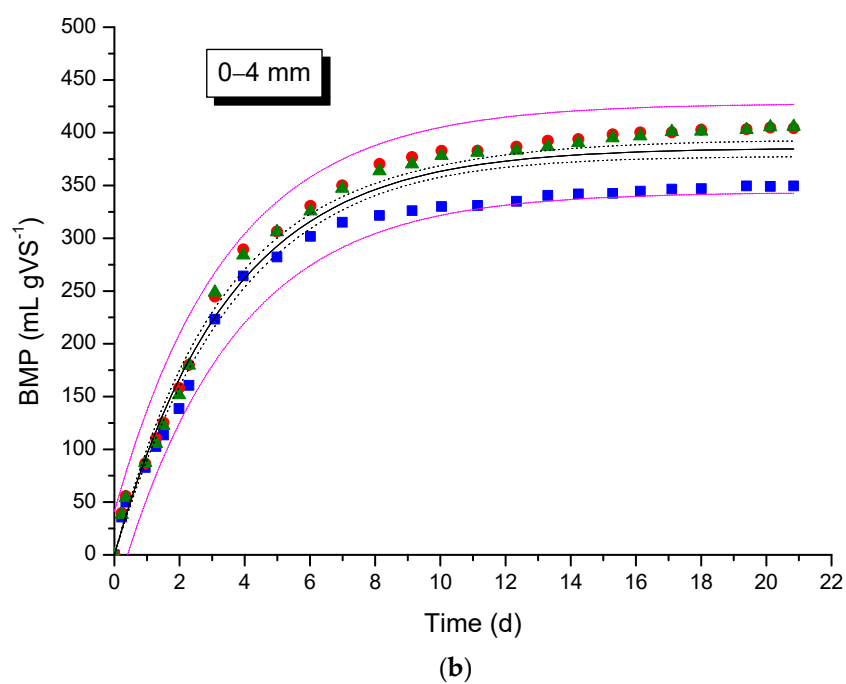
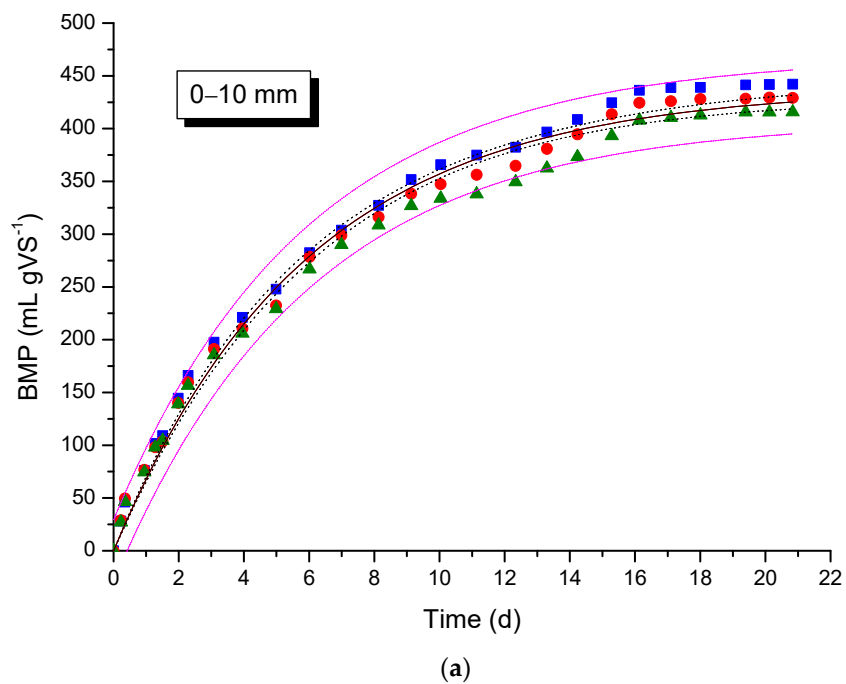


Figure S2. BMP of wood chips.



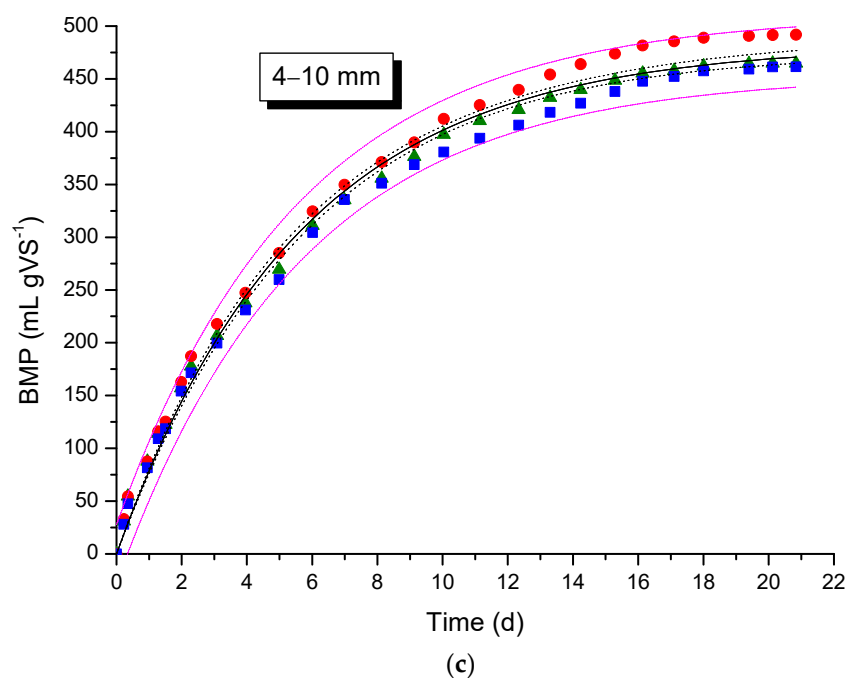
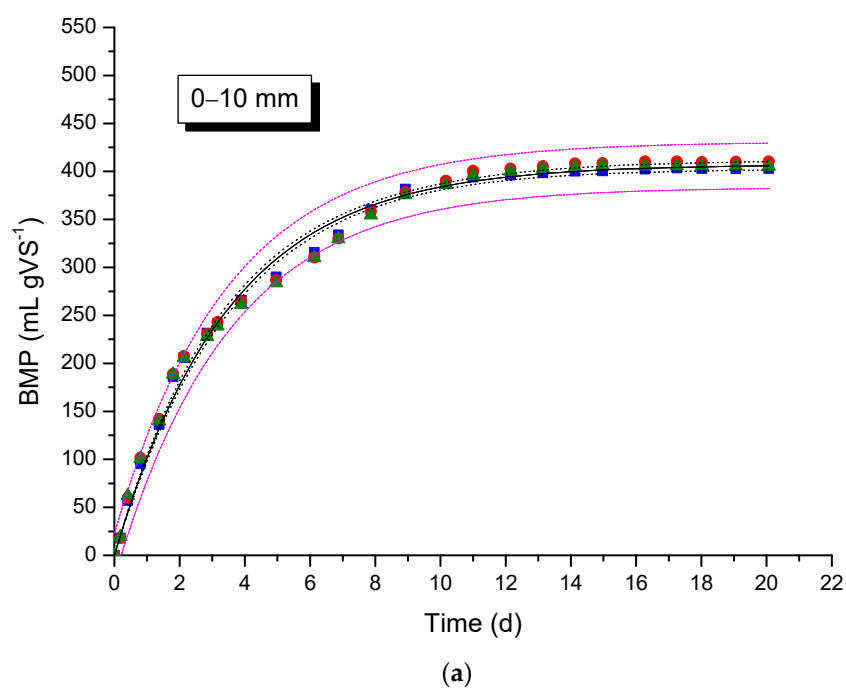


Figure S3. BMP of the S1 mixture chopped in the 0–10 mm fraction (a) before and (b)–(c) after separation into two individual sub-fractions (0–4 mm and 4–10 mm, respectively). Points represent the experimental data obtained in three replicates. The lines depict the analysis of the first-order kinetics model fitting (black solid line: model, black dotted lines: confidence band at 95% confidence level, magenta dotted lines: prediction band at 95% confidence level).



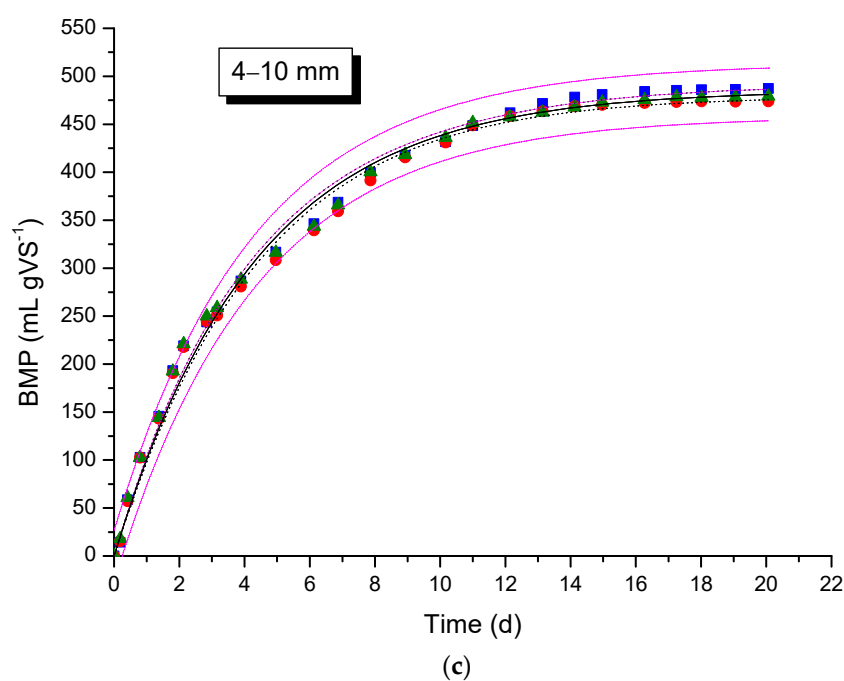
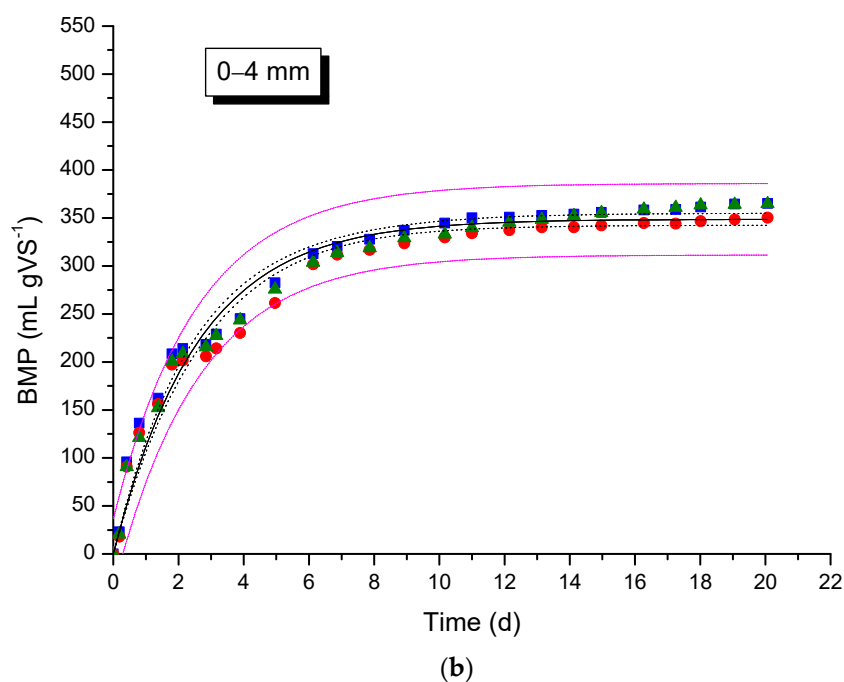
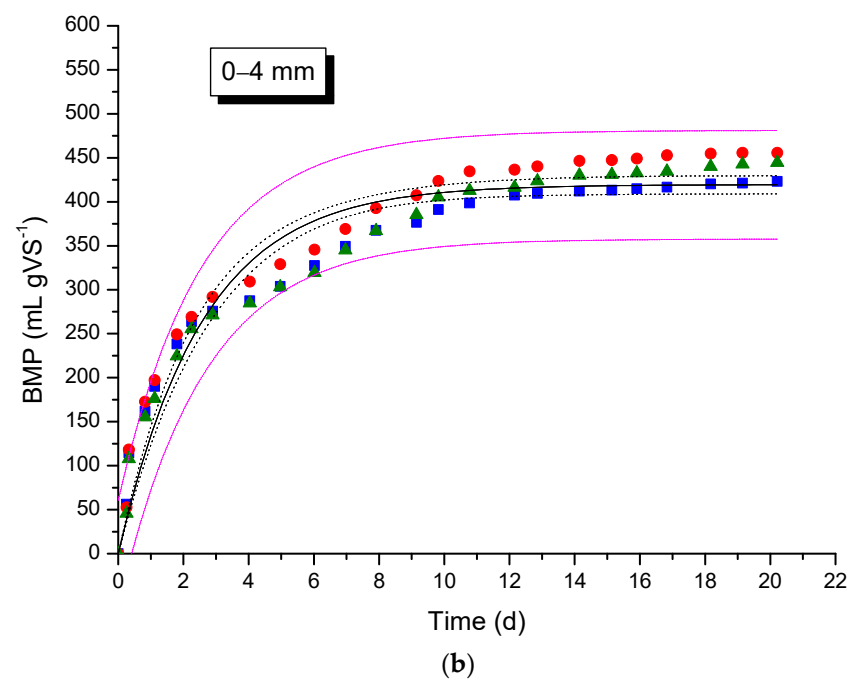
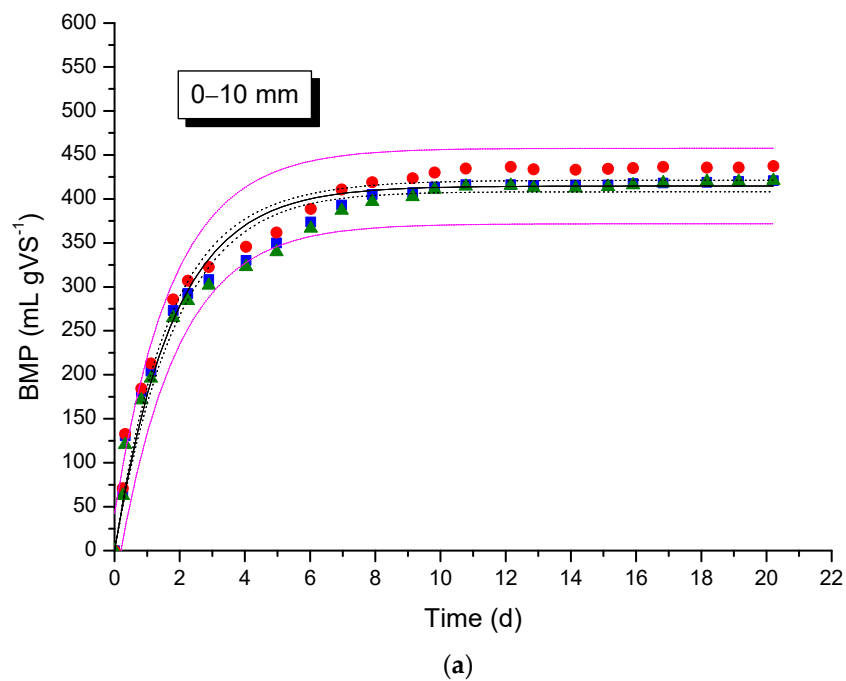


Figure S4. BMP of the S2 mixture chopped in the 0–10 mm fraction (a) before and (b)–(c) after separation into two individual sub-fractions (0–4 mm and 4–10 mm, respectively). Points represent the experimental data obtained in three replicates. The lines depict the analysis of the first-order kinetics model fitting (black solid line: model, black dotted lines: confidence band at 95% confidence level, magenta dotted lines: prediction band at 95% confidence level).



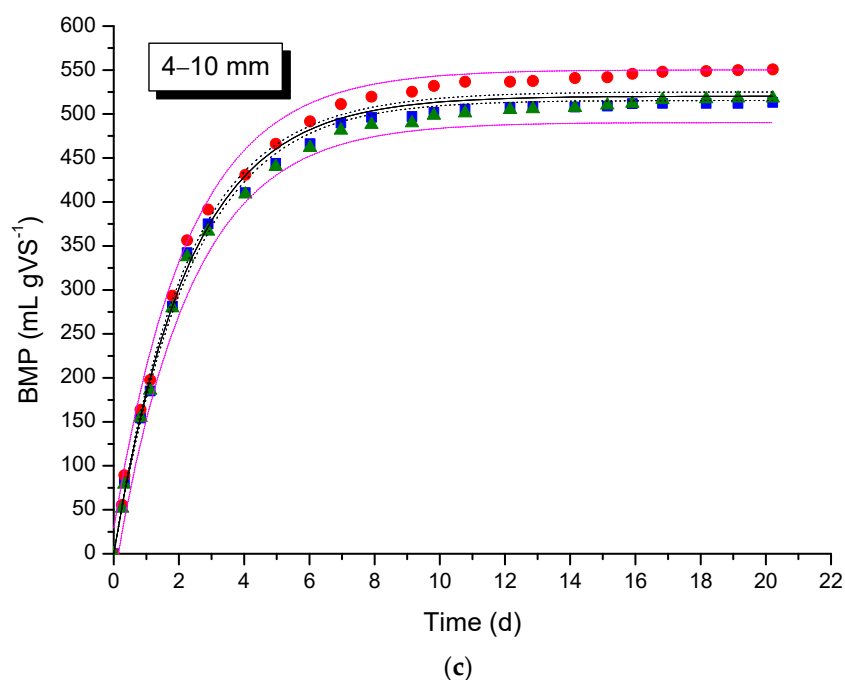


Figure S5. BMP of S3 mixture chopped in the 0–10 mm fraction (a) before and (b)–(c) after separation into two individual sub-fractions (0–4 mm and 4–10 mm, respectively). Points represent the experimental data obtained in three replicates. The lines depict the analysis of the first-order kinetics model fitting (black solid line: model, black dotted lines: confidence band at 95% confidence level, magenta dotted lines: prediction band at 95% confidence level.).

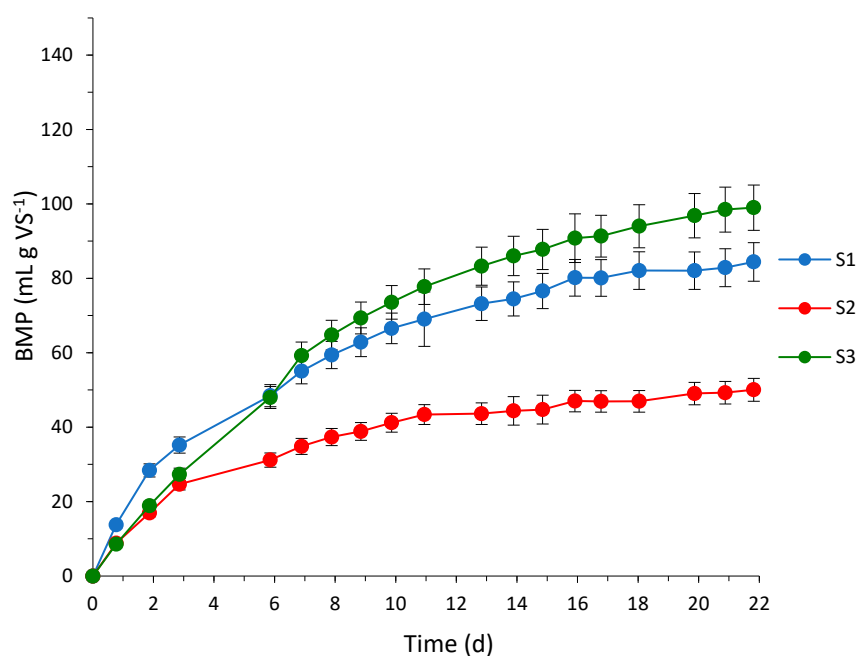


Figure S6. BMP of digestates.