



Eden Research Laboratory

To: Biosphere

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Regarding: ASTM D 5511-18 update for Biosphere Study - 1446 days

Update

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	Inoculum	Negative	Positive	APEX LDPE FILM CONTROL	APEX LDPE FILM W/ BIOS-PHERE
Cumulative Gas Volume (mL)	6649.4	6109.6	15011.0	6305.5	34067.8
Percent CH ₄ (%)	52.6	52.1	45.4	47.8	53.3
Volume CH ₄ (mL)	3496.3	3184.1	6813.0	3012.3	18164.4
Mass CH ₄ (g)	2.50	2.27	4.87	2.15	12.97
Percent CO ₂ (%)	36.0	36.1	40.4	36.0	35.0
Volume CO ₂ (mL)	2391.4	2203.5	6068.8	2272.0	11911.2
Mass CO ₂ (g)	4.70	4.33	11.92	4.46	23.40
Sample Mass (g)	10	10	10	20.0	20.0
Theoretical Sample Mass (g)	0.0	8.6	4.2	17.1	17.1
Biodegraded Mass (g)	3.15	2.89	6.90	2.83	16.11
Percent Biodegraded (%)		-3.1	88.8	-1.9	75.6
* Adjusted Percent Biodegraded (%)		-3.5	100.0	-2.1	85.1

* Outside of the ASTM D5511 method and on the assumption that the positive control (Cellulose) will fully biodegrade, all value have been proportionally adjusted.

Biodegradation

