applied sciences

MDPI

Article

The Impact of Antimicrobial Substances on the Methanogenic Community during Methane Fermentation of Sewage Sludge and Cattle Slurry

Izabela Koniuszewska, Małgorzata Czatzkowska, Monika Harnisz and Ewa Korzeniewska *

Department of Water Protection Engineering and Environmental Microbiology, Faculty of Geoengineering, University of Warmia and Mazury in Olsztyn, Prawocheńskiego 1 Str., 10-720 Olsztyn, Poland; izabela.koniuszewska@uwm.edu.pl (I.K.); malgorzata.czatzkowska@uwm.edu.pl (M.C.); monika.harnisz@uwm.edu.pl (M.H.)

* Correspondence: ewa.korzeniewska@uwm.edu.pl; Tel.: +48-89-523-47-50

Table S1. Oligonucleotide primers and PCR reaction profile.

Target Gene	Primer Sequence (5′-3′)	PCR Cycles	Reference
MSC	GAAACCGYGATAAGGGGA	94°C/10s, 60°C/30s, 45 cycles	Yu et al., 2005
	TAGCGARCATCGTTTACG		
MST	TAATCCTYGARGGACCACCA	94°C/10s, 60°C/30s, 45 cycles	Yu et al., 2005
	CCTACGGCACCRACMAC		
*mcr***A**	GGTGGTGTMGGATTCACACARTAYGCWACAGC	95°C/30 s, 55°C/30 s, 72°C/40 s, 45 cycles	Denman et al., 2007
	TTCATTGCRTAGTTWGGRTAGTT		

applied sciences

MDPI

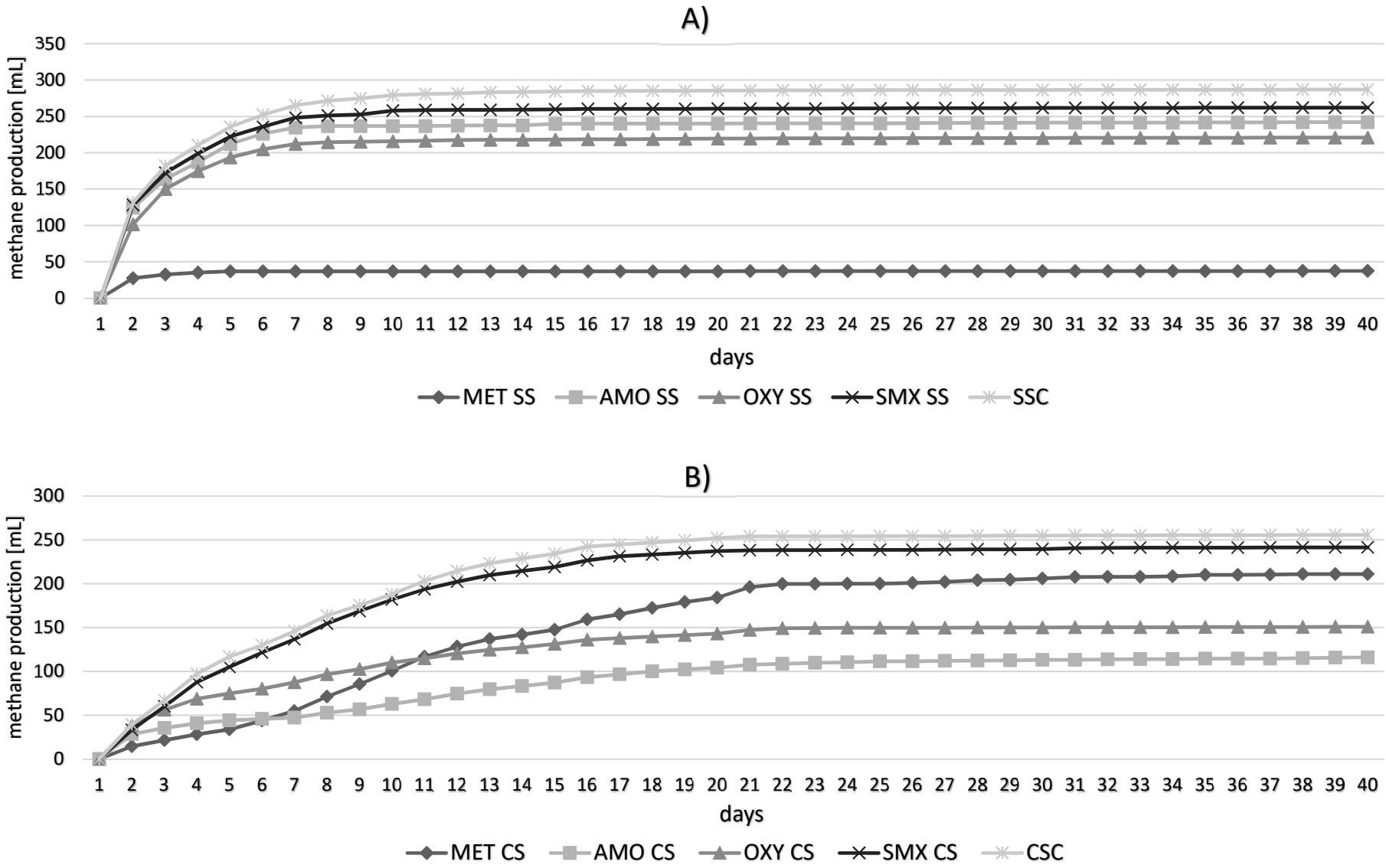

Figure S1. Average values of methane production in bioreactors during anaerobic digestion substrates such as A) sewage sludge (SS) with MET, AMO, OXY, SMX supplementation, and control reactor (SSC), and B) cattle slurry (CS) with MET, AMO, OXY, SMX supplementation, and control reactor (CSC).

References

Yu Y.; Lee C.; Kim J.; Hwang S. Group-specific primer and probe sets to detect methanogenic communities using quantitative real-time polymerase chain reaction. *Biotechnol. Bioeng.* 89 **2005**, 670–679. https://doi.org/10.1002/bit.20347.

Denman S.E.; Tomkins N.W.; McSweeney C.S. Quantitation and diversity analysis of ruminal methanogenic populations in response to the antimethanogenic compound bromochloromethane. *FEMS Microbiol. Ecol.* **2007**, *62*, 313–322. https://doi.org/10.1111/j.1574-6941.2007.00394.x.