

Supplementary Material

Tab. S1- PLFA profiles and Fatty acids used to determine microbial community composition according to literature.

Variable	PLFA Signatures	References
Bacteria:	C14:0, C15:0, C15:0i, C15:0ai, C16:0, C16:0br, C16:0i, C16:1i, C16:1w11t, C16:1w7c, C16:1w7t, C17:0, C17:0br, C17:0ai, C17:0brb, C17:1w8c, C17:0cy, C17:1w7, C18:1w7, C18:0, C19:0cy	Farrel et al. 2013; Fu et.al. 2015; Parkes and Taylor,1983; Smith et al. 2015; Unger et al. 2013, Yao et al. 2016;
Gram-positive bacteria	iC14:0, C15:0i, C15:0ai, C 16:0; C16:0i, C17:0ai,	Farrel et al. 2013; Frostegård et al. 1993; Park and Taylor, 1983; Smith et al., 2015
Gram-negative bacteria	C16:1i; C16:1w11t; C16:1w7c, C16:1w7t, C17:0br, C17:0brb, C16:1w5, C16:1w7, C17:1w8c; C17:1w7, C17:0cy, C:17:0, C19:0cy	Frostegård et al. 1993; Fu et al. 2015; Smith et al. 2015; Yao et al 2016,
Unclassified group		Prayogo et al. 2013
Fungi:	C18:1w9, C18:2 (9,12); and C16:1w 5	Farrel et al. 2013; Prayogo et al. 2013; Yao et al. 2016
Actinomycetes	10Me-C16:0, 10Me-C18:0	Bååth and Anderson 2003; Farrel et al. 2013; Frostegård and Bååth 1996; Olsson, 1999;Yao et al 2016, Smith et al.2015.
Algae:	C20:4 (5,8,11,14), C20:4 (8,11,14,17	Yao et al 2016 Smith et al., 2015)
Aerobic bacteria	C16:1,C18:1w7	Farrel et al. 2013;Fu et al.2015; Park and Taylor, 1983;; Smith et al., 2015; Unger et al. 2013; Yao et al. 2016.
Anaerobic bacteria	C16:0;C19:0cy	Farrel et al. 2013; Fu et al.2015; Parkes and Taylor, 1983; Smith et al., 2015; Unger et al. 2013; Yao et al. 2016
Denitrifying group:	C 15:0 + C16:0	Fu et al. 2015
Arbuscular mycorrhizal fungi (AMF)	16:w5c	Olsson et al. 1999
Stress indicators	C19:0cy/C18:1w7	Kieft et al., 1997; Bossio and Scow, 1998

Fig. S1 - Experimental design at site ES for mixed sample collection.

