

Supplementary Materials:

Table S1. Composition of bio-oils measured in 2015, 2018 and 2020 by gas chromatography (mg/g oil). Notation: n.d. is not detected (for values below 0.02 mg/g oil).

<i>Year</i> →	FO1-15		UCO1-15		UCO2-15		UCO3-15		FO1-18		UCO1-18		UCO2-18		UCO3-18	
	2015	2020	2015	2020	2015	2020	2015	2020	2018	2020	2018	2020	2018	2020	2018	2020
<i>Saturated FFA</i>																
C12:0	0.2	0.04	n.d.	0.05	n.d.	n.d.	n.d.	n.d.	n.d.	0.06	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
C14:0	0.1	0.12	0.1	0.1	0.1	0.09	0.1	0.06	2.76	2.67	0.04	0.05	0.07	0.07	0.11	0.08
C15:0	0.1	n.d.	n.d.	n.d.	n.d.	n.d.	0.1	n.d.	0.25	0.20	n.d.	0.04	n.d.	n.d.	n.d.	n.d.
C16:0	0.6	0.59	5	4.68	5.7	4.91	2.2	1.64	6.42	6.57	2.18	2.01	3.01	2.62	3.41	2.84
C17:0	n.d.	n.d.	0.2	0.06	n.d.	0.05	n.d.	n.d.	0.12	0.13	0.06	0.04	0.10	0.07	0.14	0.06
C18:0	0.2	0.19	1.4	1.12	1.6	1.18	1.1	0.50	1.86	1.87	1.04	0.81	1.48	1.0	1.57	1.08
(C18:0 Me ester)	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.21	n.d.	n.d.
C20:0	0.1	0.11	0.4	0.36	0.4	0.36	0.2	0.26	0.25	0.26	0.25	0.28	0.41	0.31	0.32	0.33
C22:0	0.2	0.11	0.3	0.23	0.3	0.22	0.2	0.16	0.25	0.17	0.25	0.23	0.28	0.23	0.28	0.25
<i>Unsaturated FFA</i>																
C16:1	0.25	0.16	0.1	0.12	0.1	0.09	0.1	0.05	4.01	3.88	0.08	0.12	0.15	0.11	0.12	0.14
C18:3(1)	0.09	0.06	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.96	0.97	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
C18:3(2)	0.4	0.38	2.4	2.12	2.7	2.31	0.9	0.89	5.75	5.90	1.77	1.73	2.6	2.10	2.7	2.0
C18:2	0.93	1.10	7.2	6.98	8.7	7.96	3.4	3.25	18.5	19.0	6.6	7.02	9.65	8.54	10.18	8.81
9-18:1	2.03	2.68	23.8	23.1	27.5	25.1	11	9.76	42.3	44.2	15.2	16.6	23.1	19.8	24.9	20.6
11-18:1	0.23	0.23	2.3	1.48	2.6	1.54	1.7	0.69	3.53	3.69	1.13	1.13	1.82	1.31	2.18	1.32
cis-13-21:1	0.07	0.15	n.d.	0.42	0.6	0.41	0.3	0.20	2.93	2.99	0.33	0.31	0.45	0.36	0.53	0.35
cis-5.8.11.14.17-21:5	0.23	0.14	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	3.17	4.47	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
C20:5	n.d.	0.28	n.d.	n.d.	n.d.	n.d.	n.d.	0.11	n.d.	1.32	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
cis-22:1 (1)	n.d.	0.08	0.1	n.d.	0.1	n.d.	n.d.	n.d.	1.54	1.63	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
cis-22:1 (2)	0.1	0.22	0.8	0.89	0.8	0.86	0.3	0.23	0.69	0.91	0.18	0.44	0.27	0.45	0.38	0.6
<i>Unsaturated FA methyl esters</i>																
C18:3 Me ester														0.41		0.07
C18:2 Me ester														1.42		0.25
9-18:1 Me ester														4.06		0.76

11-18:1 Me ester														0.28		0.04
Monoglycerids																
MG(1)	n.d.	0.04	0.3	0.23	0.4	0.29	n.d.	0.10	0.30	0.24	0.18	0.13	0.18	0.21	0.23	0.21
MG(2)	0.1	0.05	0.8	0.79	1.1	0.96	0.3	0.27	0.61	0.74	0.48	0.52	0.69	0.72	0.95	0.97
MG(3)	0.3	0.18	2.8	2.76	3.4	3.14	0.6	0.87	1.74	2.22	1.11	1.29	1.59	1.73	2.18	2.37
Sterols																
cholesterol	n.d.	1.04	n.d.	0.06	n.d.	0.06	n.d.	0.12	1.58	1.46	0.12	0.10	0.10	0.11	0.09	0.17
farnesol?	n.d.	n.d.	n.d.	0.12	n.d.	0.12	n.d.	0.21	n.d.	0.07	n.d.	0.18	n.d.	0.20	n.d.	0.16
campesterol	n.d.	n.d.	n.d.	0.21	n.d.	0.22	n.d.	0.52	n.d.	0.04	0.33	0.37	0.28	0.29	0.29	0.31
sitosterol	n.d.	n.d.	n.d.	0.33	n.d.	0.32	n.d.	0.81	n.d.	n.d.	0.63	0.61	0.57	0.56	0.54	0.52
sitostanol	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.05	n.d.	n.d.	0.07	0.05	0.11	n.d.	n.d.	n.d.
Sum saturated FFA	1.5	1.2	7.5	6.6	8.1	6.8	3.9	2.6	11.9	11.9	3.8	3.5	5.4	4.5	5.8	4.6
Saturated FFA/Sum FFA	25.4 %	17.5%	16.7%	15.8%	15.9%	15.1%	18.0%	14.7%	11.9%	11.8%	13.1%	11.3%	12.4%	10.4%	12.5%	11.7%
Sum unsaturated FFA	4.4	5.5	37.3	35.1	43	38.3	17.8	15.2	87.8	89.0	25.3	27.3	38	32.7	41.0	33.8
Sum unsaturated FA incl. methyl esters														38.8		34.9
Sum monoglycerides	0.3	0.3	3.9	3.8	4.8	4.4	0.9	1.2	2.6	3.2	1.8	2.0	2.5	2.7	3.4	3.6
Sum FFA	5.9	6.7	44.8	41.7	51.1	45.1	21.7	17.8	99.7	101.0	29.1	30.8	43.3	43.3	46.8	39.6