

SUPPLEMENTARY MATERIAL

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Insect-based products commercialized online: a snapshot of lipid oxidation and mineral content

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Supplementary Table 1. Description of insect-based food acquired from commercial online platforms.

Sample number	Insect-based food	Method of production	Product aspect	Scientific name	Allergens information	Special storage conditions
1	Mealworms	Freeze-dried	Whole	-	Shellfish	Store in a cool dry place, consume within one month of opening
2	Crickets	Freeze-dried	Whole	-	Shellfish	Store in a cool dry place, consume within one month of opening
3	Silkworms	-	Meal	<i>Bombix mori</i>	-	Oxygen adsorber
4	Crickets	-	Meal	<i>Acheta domesticus</i>	-	Oxygen adsorber
5	Mole crickets	Boiled and dehydrated	Whole	<i>Gryllotalpa</i> spp.	Crustacean	Oxygen adsorber
6	Small crickets	Salted Cooked & Dehydrated	Whole	<i>Grillus campestris</i>	Crustacean	Oxygen adsorber
7	Silkworms	Salted Cooked & Dehydrated	Whole	<i>Bombyx mory</i>	Crustacean	Oxygen adsorber
8	Silkworms	Salted Cooked & Dehydrated	Whole	<i>Bombyx mory</i>	Crustacean	Oxygen adsorber
9	Mealworms	Salted cooked & dehydrated BBQ flavour	Whole	<i>Tenebrio molitor</i>	Crustacean	Oxygen adsorber
10	Mole crickets	-	Whole	<i>Gryllotalpa</i> spp.	Crustacean	Oxygen adsorber
11	Silkworms	Salted cooked & dehydrated	Whole	-	Crustacean	-
12	Mealworms	Freeze-dried	Whole	-	Shellfish	Store in a cool dry place, consume within one month of opening
13	Crickets	-	Whole	-	Shellfish	Store in a cool dry place, consume within one month of opening
14	Crickets	-	Whole	<i>Acheta domesticus</i>	Crustacean, seafood and mites	Store in a cold dry place, away from light
15	Mealworms	-	Whole	<i>Tenebrio molitor</i>	Crustacean, seafood and mites	Store in a cold dry place, away from light
16	Roasted crickets	Roasted		-	Seafood and hazelnuts	-
17	Roasted mealworms	Roasted	Whole	-	Seafood	-
18	Salted silkworm pupae	Salted Cooked & Dehydrated	Whole	<i>Bombyx mory</i>	Crustacean	Store in a cool dry place + oxygen adsorber
19	Crickets	Boiled, salted cooked & dehydrated		<i>Acheta domesticus</i>	Crustacean	-
20	Mole crickets salted	Boiled, salted cooked & dehydrated	Whole	<i>Gryllotalpa</i> spp.	Crustacean	Store in a cool dry place + oxygen adsorber
21	Salted mealworms	Salted, oven roasted and dehydrated	Whole	<i>Tenebrio molitor</i>	Crustacean	Store in a cool dry place + oxygen adsorber
22	Cricket flour	-	Meal	<i>Acheta domesticus</i>	Crustacean	-
23	Silkworms	-	Whole	<i>Bombyx mory</i>	Crustacean	-
24	Mealworms	-	Whole	<i>Tenebrio molitor</i>	Crustacean	-

25	Crickets	-	Whole	<i>Acheta domestica</i>	Crustacean	-
26	Mealworms	-	Whole	-	Shellfish, mites, nuts, soy, not suitable for children < 3 years old	Store in a cool dry place
27	Crickets	-	Whole	-	-	-
28	Silkworms	-	Whole	-	-	-
29	Mealworms	-	Whole	-	-	-
30	Crickets	-	Whole	-	-	-
31	Crickets	Freeze-dried	Whole	<i>Acheta domesticus</i>	Seafood or shellfish	Store in a cool dry place
32	Mealworms	Freeze-dried	Whole	<i>Tenebrio molitor</i>	Seafood or shellfish	Store in a cool dry place

Supplementary Table 2. Unsaturated fatty acid (percentage of single fatty acid over the total identified fatty acids).

	14:1n5	16:1n7	17:1 n10	18:1 n9	18:1 11t	18:2 n6	18:3n6	18:3 n3	20:1 n11	20:2 n6	22:1 n9	22:2 n6	24:1 n9	MUFA	PUFA
Cricket		0.51	0.05	24.11		35.62		1.15						24.65	36.77
Cricket		0.69		24.60		36.03		1.06					0.06	25.34	37.10
Cricket	0.02	0.80		22.20		31.28		2.07					0.04	23.04	33.35
Cricket		0.74		29.21		28.35		0.44	0.01					29.95	28.79
Cricket		0.59		27.77		31.11		0.40						28.36	31.51
Cricket		0.63		27.52		29.66		0.54						28.15	30.21
Cricket	0.02	1.25		28.92		17.13		0.64	0.15				0.04	30.37	17.77
Cricket		1.21		32.65		19.41		0.95					0.05	33.97	20.36
Cricketi		0.64		21.79		34.56		2.53	0.03					22.44	37.09
Criket	0.06	1.07	0.08	26.73		28.99		1.50	0.14				0.07	28.04	30.49
Mealworm		1.85		44.94		24.45		1.75	0.06				0.01	46.82	26.20
Mealworm		1.66	0.11	43.17		28.64	0.02	2.01	0.17				0.02	45.03	30.66
Mealworm		1.18		41.43		27.91		1.16	0.10					42.65	29.06
Mealworm		1.32	0.07	43.26		27.58		1.90	0.07		0.04			44.72	29.48
Mealworm		1.32	0.14	43.36		27.31		1.28	0.07					44.89	28.59
Mealworm		1.32		43.13		26.35		1.02	0.10					44.55	27.36
Mealworm		1.37		35.45		36.02		1.72	0.14		0.11			37.07	37.73
Mealworm		1.60		36.39		35.46		1.65	0.08					38.07	37.12
Mealworm		0.32	0.06	34.96		18.66		0.90	0.10					35.43	19.56
Mealworm	0.02	0.94	0.14	22.96		30.32		0.99	0.05				0.02	24.01	31.31
Molecricquet	0.02	2.77		38.45		17.74		0.66					0.02	41.25	18.40
Molecricquet	0.02	3.57		38.76		17.31		0.95	0.03		0.03			42.37	18.26
Molecricquet	-	0.57	-	33.44	-	5.69	0.14	28.56	-	-	-	-	-	34.01	34.40
Molecricquet	0.01	1.96	-	48.66	-	24.80	-	1.14	0.05	-	0.02	-	-	50.71	25.94
Molecricquet	0.02	3.20		41.15		8.97		0.29						44.37	9.26
Silkworm		0.72	0.03	28.64		5.95	0.16	37.99						29.38	44.10
Silkworm		0.73	0.02	30.59		5.41	0.12	33.65						31.32	39.18
Silkworm		0.64		33.61		5.10		29.58						34.25	34.68
Silkworm		0.76		31.71		5.32	0.12	32.43						32.47	37.87

Supplementary Table 3. Saturated fatty acid (percentage of single fatty acid over the total identified fatty acids).

Edible insects	C4:0	C6:0	C8:0	C10:0	C11:0	C12:0	C14:0	C15:0	C16:0	C17:0	C18:0	C20:0	C22:0	C24:0	Total
Cricket						0.10	0.59	0.05	26.07	0.17	9.07	0.45	0.15	0.09	36.73
Cricket		0.06				0.03	0.72	0.06	26.05	0.17	12.72	0.52	0.11		40.44
Cricket		0.13	0.02			0.05	0.90	0.08	28.04	0.18	13.31	0.62	0.14		43.48
Cricket		0.14	0.01			0.07	0.55	0.07	30.06	0.18	9.73	0.38			41.21
Cricket						0.07	0.60		28.77	0.19	10.38				40.01
Cricket		0.10				0.40	1.71	0.08	26.28	0.20	10.73	0.41	0.11		40.01
Cricket						0.11	0.56	0.07	26.99	0.17	10.30	0.41	0.09		38.71
Cricket						0.08	0.60	0.07	30.32	0.20	9.75	0.38			41.39
Cricket		0.42	0.04			0.55	2.21	0.13	33.48	0.27	13.01	0.52	0.09		50.71
Cricket		0.44	0.07			0.11	0.73	0.10	32.70	0.21	9.63	0.84	0.36		45.18
Mealworm		0.05				0.22	2.98	0.13	16.61	0.16	3.39	0.17	0.11	0.08	23.89
Mealworm						0.30	2.57	0.11	20.86	0.15	4.11	0.14			28.25
Mealworm			0.03	0.02		0.27	3.11	0.12	17.44	0.14	3.99	0.13	0.03	0.06	25.34
Mealworm	-	-	-	0.01	-	0.30	3.86	0.09	15.57	0.13	3.07	0.20	0.04	-	23.27
Mealworm			0.01	0.03		0.17	1.95	0.14	19.23	0.18	4.30	0.26	0.05		26.32
Mealworm				0.02		0.38	2.80	0.11	19.99	0.15	4.24	0.21	0.03		27.92
Mealworm						0.18	1.79	0.18	18.93	0.19	3.34	0.14	0.04	0.02	24.80
Mealworm				0.02		0.29	2.54	0.18	18.33	0.18	2.93	0.13	0.06	0.03	24.67
Mealworm		0.01	0.75	0.26		0.05	0.63	0.14	32.16	0.31	10.60	0.16	0.05		45.12
Mealworm		0.20	0.03	0.01		0.10	0.68	0.09	30.32	0.25	11.13	0.65	0.17		43.63
Mealworm		0.17	0.04	0.02		0.30	3.14	0.16	18.85	0.17	3.26	0.15	0.07	0.07	26.40
Molecricket		0.06	0.03			0.25	1.24	0.08	29.24	0.16	8.24	0.46			39.76
Molecricket		0.03				0.26	1.23	0.07	29.45	0.12	6.83	0.43	0.07		38.48
Molecricket		0.22	0.09	0.04		0.30	1.45	0.09	34.38	0.17	8.71	0.44	0.06		45.96
Silkworm						0.03	0.14	0.03	20.28	0.09	5.44	0.27	0.08	0.02	26.38
Silkworm						-	0.16	-	23.00	0.09	7.76	0.38	0.14	-	31.53
Silkworm			0.02			0.04	0.15	0.04	22.27	0.10	6.36	0.33	0.10		29.42
Silkworm		0.00	0.01			0.03	0.16	0.03	23.54	0.12	6.80	0.30			30.99
Silkworm						0.04	0.17	0.03	22.45	0.10	6.45	0.29	0.07		29.61