

SUPPORTING INFORMATION

Table S1: Chemical composition of barley, wheat, faba beans, and potatoes used to compose the experimental diets.

Crop	Variable	Cultivation system	Year 1			Year 2	
			Fou	Jyn	Fla	Fou	Jyn
Barley	DM (g/kg feed)	C	881	879	884	919	876
		OA	881	878	879	920	874
		OB	882	880	889	922	876
	Ash (g/kg DM)	C	18	21	23	17	20
		OA	21	21	22	19	21
		OB	22	21	21	19	20
	Crude protein (N*6.25)(g/kg DM)	C	117	99	114	115	78
		OA	88	77	86	87	73
		OB	103	84	84	103	78
Wheat	DM (g/kg feed)	C	882	868	872	991	870
		OA	880	865	867	911	872
		OB	881	865	869	909	869
	Ash (g/kg DM)	C	15	17	17	15	15
		OA	19	18	17	18	18
		OB	17	17	17	17	17
	Crude protein (N*6.25)(g/kg DM)	C	130	123	148	120	108
		OA	99	100	97	94	81
		OB	98	108	95	97	99
Faba beans	DM (g/kg feed)	C	871	872	882	991	867
		OA	870	870	881	907	869
		OB	871	870	880	912	868
	Ash (g/kg DM)	C	44	42	42	44	41
		OA	43	41	44	45	39
		OB	44	43	43	44	41
	Crude protein (N*6.25)(g/kg DM)	C	336	307	320	334	339
		OA	333	324	328	320	317

Crop	Variable	Cultivation system	Year 1			Year 2	
			Fou	Jyn	Fla	Fou	Jyn
		OB	343	323	332	331	339
Potatoes	DM (g/kg feed)	C	953	964	971	933	951
		OA	955	962	969	939	936
		OB	958	963	964	961	944
	Ash (g/kg DM)	C	49	43	50	57	49
		OA	50	54	50	60	55
		OB	50	48	46	53	53
	Crude protein (N*6.25)(g/kg DM)	C	108	87	88	93	73
		OA	115	114	93	102	88
		OB	110	90	87	84	86

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet.

Table S2: Chemical composition of the diets. Fatty acids are only measured in the added rapeseed oil.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
Gross energy (MJ/kg DM)	C	20.9±0.12	20.8±0.01	20.8±0.04	20.8±0.11	20.7±0.14
	OA	20.8±0.01	20.7±0.07	20.7±0.05	20.7±0.12	20.7±0.08
	OB	20.7±0.13	20.7±0.01	20.8±0.01	20.7±0.01	20.7±0.06
DM (g/kg feed)	C	905±1.06	908±1.91	910±0.00	920±0.92	912±1.70
	OA	906±1.34	905±1.34	912±0.78	919±0.14	911±0.64
	OB	907±2.19	908±1.91	909±3.39	922±1.13	911±0.07
Ash content (g/kg DM)	C	37.6±0.28	38.2±0.88	39.7±1.27	37.3±0.95	35.1±0.11
	OA	38.6±0.46	39.5±1.31	39.3±0.25	39.4±2.12	36.7±0.14
	OB	38.5±0.11	38.7±0.11	38.1±1.17	38.4±0.25	37.3±1.13
Crude protein (N*6.25)(g/kg DM)	C	163.3±1.10	148.6±0.66	157.7±2.43	165.6±0.44	143.7±2.65
	OA	156.9±4.86	146.7±1.99	148.1±6.63	145.9±2.21	143.6±0.22
	OB	155.9±2.21	145.0±6.19	145.5±0.22	151.2±7.95	151.1±1.55
Starch (g/kg DM)	C	46.1±0.48	48.3±3.69	43.7±0.53	47.6±1.79	47.3±0.54
	OA	45.8±0.48	47.7±1.94	47.6±3.53	47.4±0.80	48.4±0.19
	OB	45.4±1.41	48.3±4.36	46.3±2.02	48.0±1.55	46.6±0.01
<u>Vitamins (mg/kg diet)</u>						
α-tocopherol	C	38.3±0.68	41.4±0.13	44.0±1.16	39.7±0.06	40.3±0.44
	OA	36.6±0.05	40.0±0.47	39.1±0.40	40.5±1.64	41.3±0.04
	OB	37.8±1.14	38.3±0.22	39.6±0.28	40.6±1.39	40.8±1.24
γ-tocopherol	C	83.8±6.89	80.1±1.52	92.8±6.80	87.0±0.64	78.5±4.73
	OA	75.0±5.58	83.0±2.62	83.6±9.54	81.4±3.80	79.2±0.13
	OB	78.0±2.83	68.9±5.26	78.9±3.78	71.6±1.73	70.3±5.65
Vitamin C	C	53.0±1.41	57.5±0.71	72.0±18.4	103.0±18.4	86.0±4.24
	OA	61.0±12.7	80.0±4.24	56.5±7.78	100±1.41	88.0±26.9
	OB	48.5±13.4	52.5±6.36	41.5±0.71	85.0±14.1	92.0±5.66
<u>Rapeseed oil fatty acids (g FA/100g FA)</u>						
C16:0	C	4.44±0.01	4.26±0.07	4.51±0.00	4.35±0.03	4.49±0.01

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
C18:0	OA	4.48±0.03	4.33±0.03	4.49±0.02	4.43±0.02	4.44±0.00
	OB	4.47±0.02	4.27±0.00	4.46±0.00	4.46±	4.52±0.00
	C	1.77±0.00	1.79±0.01	1.73±0.03	1.73±0.00	1.72±0.02
C18:1	OA	1.84±0.02	1.82±0.02	1.73±0.00	1.79±0.00	1.86±0.01
	OB	1.84±0.02	1.79±0.02	1.70±0.01	1.87±0.01	1.81±0.02
	C	64.3±0.10	63.8±0.10	62.0±0.54	61.4±1.61	62.0±0.46
C18:2	OA	65.1±0.21	64.5±0.22	63.6±0.23	63.0±0.14	61.7±1.25
	OB	65.4±0.24	64.6±0.24	63.7±0.00	63.3±0.26	63.0±0.18
	C	17.3±0.08	18.2±0.10	19.1±0.40	17.9±0.09	18.5±0.30
C18:3	OA	17.3±0.13	18.0±0.26	18.3±0.02	17.8±0.00	17.9±0.04
	OB	17.5±0.07	18.1±0.37	18.5±0.04	17.6±0.13	18.2±0.21
	C	9.39±0.04	9.04±0.08	9.60±0.17	10.6±0.11	10.7±0.10
C20:1	OA	8.67±0.08	8.70±0.07	9.05±0.15	10.3±0.07	10.2±0.43
	OB	8.39±0.14	8.64±0.13	8.99±0.03	10.2±0.06	10.0±0.04
	C	1.22±0.01	1.22±0.00	1.27±0.01	1.25±0.01	1.19±0.05
C20:2	OA	1.02±0.03	1.10±0.03	1.14±0.03	1.15±0.00	1.20±0.01
	OB	0.96±0.03	1.10±0.00	1.10±0.00	1.08±0.00	1.10±0.01
	C	0.06±0.00	0.06±0.00	0.07±0.00	0.06±0.00	0.06±0.00
C22:0	OA	0.05±0.00	0.05±0.00	0.06±0.00	0.05±0.00	0.06±0.00
	OB	0.05±0.00	0.05±0.00	0.06±0.00	0.05±0.00	0.05±0.00
	C	0.31±0.00	0.32±0.01	0.35±0.01	0.30±0.01	0.28±0.00
SFA	OA	0.28±0.00	0.30±0.00	0.31±0.01	0.28±0.00	0.28±0.01
	OB	0.26±0.00	0.28±0.00	0.30±0.00	0.27±0.00	0.25±0.00
	C	7.14±0.01	7.12±0.04	7.39±0.01	7.06±0.01	7.15±0.02
MUFA	OA	7.29±0.05	7.16±0.04	7.27±0.01	7.17±0.01	7.26±0.03
	OB	7.25±0.03	7.02±0.01	7.18±0.01	7.27±0.01	7.22±0.03
	C	65.9±0.12	65.4±0.12	63.6±0.54	63.1±1.60	63.6±0.38
PUFA	OA	66.5±0.17	65.9±0.25	65.1±0.15	64.6±0.12	63.3±1.24
	OB	66.7±0.19	66.0±0.23	65.1±0.01	64.8±0.26	64.5±0.19
	C	26.8±0.12	27.3±0.18	28.8±0.57	28.5±0.20	29.2±0.40
	OA	26.1±0.21	26.8±0.19	27.4±0.13	28.1±0.07	28.2±0.47

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
	OB	25.9±0.22	26.8±0.24	27.5±0.01	27.9±0.20	28.3±0.24

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet. PUFA: polyunsaturated fatty acids. SFA: saturated fatty acids.
Values are expressed as MEAN±SD.

Table S3: Growth and organ weight.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
Initial weight (g)	C	76.7±0.94	70.9±1.94	78.8±2.51	77.4±6.86	84.2±0.68
	OA	73.6±0.02	76.1±3.41	75.2±1.12	85.7±6.44	77.4±1.75
	OB	66.9±0.90	70.3±7.18	69.4±2.92	78.1±5.44	82.3±2.66
Final weight (g)	C	238±20.1	237±5.82	252±4.76	262±1.86	252±14.6
	OA	255±7.14	239±6.46	244±27.1	258±5.56	248±4.55
	OB	231±16.6	249±28.3	244±5.19	250±13.8	254±12.0
Daily gain (g)	C	1.02±0.13	1.02±0.00	1.06±0.05	1.13±0.12	1.02±0.05
	OA	1.10±0.01	1.04±0.04	1.04±0.11	1.04±0.01	1.05±0.05
	OB	1.10±0.02	1.07±0.02	1.13±0.09	1.03±0.01	1.03±0.06
Organs (g kg⁻¹ slaughter weight)						
Liver	C	33.8±3.80	35.5±0.08	32.8±0.46	34.1±1.11	34.1±1.86
	OA	31.2±0.58	35.6±1.24	32.8±0.30	33.5±1.05	36.6±3.07
	OB	33.8±2.56	33.2±1.61	34.3±1.24	35.3±1.34	31.7±0.53
Lungs	C	5.49±0.50	5.46±0.15	4.40±0.19	6.10±0.09	5.12±0.66
	OA	5.60±0.02	5.41±0.11	5.68±0.56	6.01±0.17	5.17±1.00
	OB	5.40±0.40	5.60±0.41	5.62±0.06	5.54±0.14	5.48±0.34
Heart	C	3.11±0.44	3.35±0.18	2.99±0.06	3.21±0.15	2.96±0.03
	OA	2.89±0.05	3.29±0.02	2.97±0.31	3.06±0.11	3.23±0.12
	OB	3.12±0.11	3.07±0.06	3.24±0.07	3.18±0.07	3.02±0.11
Spleen	C	2.13±0.03	2.48±0.26	2.05±0.13	2.29±0.22	2.21±0.30
	OA	2.15±0.25	2.22±0.17	2.22±0.00	2.14±0.07	2.43±0.02
	OB	2.08±0.22	2.09±0.19	2.19±0.01	2.30±0.17	2.18±0.10
Pancreas	C	3.37±0.45	4.58±0.27	4.32±0.15	4.84±0.13	4.22±0.06
	OA	3.53±0.61	4.85±0.33	3.99±0.04	4.27±0.15	4.68±0.46
	OB	4.11±0.01	4.15±0.21	3.75±0.65	4.24±1.39	4.48±1.71
Kidneys	C	7.06±1.09	7.68±0.42	6.84±0.11	6.75±0.30	6.70±0.29
	OA	6.82±0.32	7.02±0.07	6.80±0.71	7.21±0.19	7.10±0.09
	OB	6.95±0.45	7.10±0.45	6.83±0.12	7.06±0.01	6.84±0.30
Adipose tissue	C	65.9±24.3	52.6±3.97	71.5±2.30	66.5±3.06	75.1±6.38
	OA	73.9±1.26	60.3±6.67	70.4±22.4	61.6±8.60	59.5±7.68
	OB	55.3±14.0	60.5±7.16	58.3±11.2	64.7±12.4	68.6±4.88

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
Ovaries	C	3.74±0.17	3.13±0.32	3.90±0.07	3.27±0.64	3.48±0.21
	OA	2.30±0.23	3.29±0.35	3.49±0.20	3.41±0.32	3.23±0.37
	OB	2.99±0.55	3.95±0.90	3.09±0.66	2.77±0.09	3.21±0.37

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet.

Values are expressed as MEAN±SD.

Table S4: Nutritional status of the rats.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
Glucose	C	10.4±0.64	10.4±1.55	10.4±0.74	11.2±0.08	9.76±1.28
	OA	10.9±0.36	10.7±0.25	12.6±1.02	9.47±2.25	10.7±1.14
	OB	12.8±1.15	11.1±1.20	11.4±1.82	10.0±0.21	10.3±0.11
NEFA	C	753±2.05	746±111	638±115	618±133	591±199
	OA	635±8.02	515±13.2	673±41.1	801±128	584±44.0
	OB	760±45.2	525±56.6	599±33.7	660±292	718±58.2
TAG	C	1.78±0.58	1.15±0.22	1.32±0.59	1.93±0.00	2.38±0.55
	OA	2.05±0.30	1.15±0.12	1.77±0.26	1.85±0.25	2.05±0.29
	OB	1.55±0.21	1.31±0.42	1.38±0.17	1.45±0.13	2.06±0.11
Cholesterol	C	2.02±0.01	1.71±0.21	1.80±0.22	1.83±0.09	1.82±0.14
	OA	1.77±0.00	2.01±0.01	1.87±0.18	1.87±0.15	1.90±0.14
	OB	1.79±0.01	1.89±0.07	1.95±0.12	2.05±0.58	2.01±0.12
Insulin	C	0.43±0.01	0.34±0.16	0.53±0.11	0.63±0.24	0.45±0.51
	OA	0.57±0.11	0.48±0.20	0.52±0.28	0.61±0.16	0.70±0.06
	OB	0.40±0.12	0.70±0.38	0.61±0.13	0.55±0.17	0.47±0.02
Phospholipid-Choline	C	2.72±0.01	2.34±0.16	2.41±0.37	2.53±0.01	2.54±0.05
	OA	2.45±0.05	2.65±0.10	2.66±0.35	2.65±0.03	2.59±0.22
	OB	2.38±0.01	2.42±0.01	2.50±0.03	2.70±0.72	2.79±0.20
AST	C	140±0.78	151±44.1	245±1.86	139±8.06	191±33.6
	OA	129±12.3	145±62.1	203±72.0	113±2.99	132±41.6
	OB	139±9.33	194±23.3	130±14.4	152±47.0	171±28.4
Urea-N	C	5.87±0.10	4.51±0.55	5.67±0.14	5.29±0.53	5.27±0.40
	OA	4.96±0.19	5.40±0.16	5.50±0.06	5.14±0.02	4.79±0.01
	OB	5.71±0.68	4.57±0.18	4.85±0.75	5.47±0.44	5.19±0.63

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet. TAG: tri-acyl-glycerol. NEFA: non-esterified fatty acids. AST: aspartate-aminotransferase. Values are expressed as MEAN±SD.

Table S5: Antioxidant status of the rats.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
<u>Plasma immunoglobulins</u>						
IgG	C	8523±116.1	7485±2585	7016±5415	5260±590.2	7768±2359
	OA	6201±1587	4809±542.1	3768±1839	5218±1375	5507±1963
	OB	5797±1455	3631±1590	4031±31.70	4799±3194	3627±396.0
IgA	C	28.6±0.84	23.0±8.68	21.3±0.08	28.5±9.15	31.5±8.35
	OA	24.4±10.9	26.0±1.44	20.4±1.66	32.8±2.22	27.5±0.09
	OB	27.9±1.63	21.6±2.26	24.1±2.04	31.4±0.18	26.8±0.56
IgM	C	77.3±3.60	79.4±24.6	68.0±16.1	67.8±8.00	73.5±4.24
	OA	61.1±3.01	66.8±14.3	66.9±11.4	77.8±9.46	72.0±0.03
	OB	72.6±2.66	56.5±10.5	63.5±8.15	61.9±6.31	62.2±9.92
<u>Plasma antioxidants</u>						
α-tocopherol	C	7.86±0.26	6.21±0.94	8.21±0.67	8.51±0.25	5.58±0.76
	OA	7.52±0.76	8.55±2.09	7.57±1.63	8.08±0.91	7.66±1.00
	OB	7.25±0.17	7.02±0.93	7.64±0.03	8.30±2.28	8.77±0.52
Retinol	C	0.12±0.00	0.11±0.01	0.16±0.03	0.09±0.01	0.13±0.00
	OA	0.10±0.00	0.12±0.03	0.16±0.01	0.09±0.01	0.12±0.01
	OB	0.08±0.02	0.11±0.01	0.15±0.02	0.10±0.02	0.14±0.02
<u>Liver antioxidants</u>						
α-tocopherol	C	23.5±2.21	28.7±3.08	29.3±1.39	31.6±10.5	28.5±4.30
	OA	27.9±5.11	30.3±2.73	29.5±6.49	31.5±1.58	25.8±2.03
	OB	25.4±0.55	34.5±2.01	26.8±1.30	28.1±3.59	33.5±4.00
γ-tocopherol	C	0.76±0.14	0.78±0.41	0.55±0.00	0.69±0.20	0.68±0.09
	OA	0.78±0.11	0.99±0.26	0.62±0.16	0.76±0.04	0.53±0.23
	OB	0.62±0.38	0.69±0.07	0.59±0.03	0.36±0.26	0.63±0.01

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet.

Values are expressed as MEAN±SD.

Table S6: Composition of selected fatty acids in the plasma.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
C16:0	C	12.1±0.27	12.3±0.17	12.9±0.14	12.6±1.00	12.5±0.26
	OA	12.8±1.33	11.8±1.18	13.6±0.02	11.9±0.29	11.8±0.46
	OB	11.9±0.86	12.5±0.30	12.2±0.33	12.3±0.50	12.7±0.26
C16:1	C	1.23±0.21	1.51±0.22	1.04±0.22	1.19±0.01	1.14±0.40
	OA	1.31±0.04	1.23±0.16	1.37±0.02	1.30±0.01	1.27±0.26
	OB	1.19±0.00	1.02±0.04	1.19±0.23	1.35±0.16	1.18±0.22
C18:0	C	11.7±1.81	12.6±1.01	13.2±0.89	11.1±0.17	11.2±0.67
	OA	11.0±1.55	13.3±0.52	12.5±0.12	11.1±0.77	11.2±0.88
	OB	11.3±0.73	13.4±2.33	12.9±0.76	12.9±2.18	11.5±0.55
C18:1	C	28.3±3.06	28.8±3.08	26.5±2.61	31.9±0.88	33.0±2.37
	OA	33.6±2.55	26.7±0.50	29.5±0.01	32.0±0.88	31.8±3.37
	OB	32.1±1.36	28.1±4.37	28.9±0.70	28.7±2.84	30.7±0.82
C18:2 n-6	C	18.8±0.50	17.3±1.06	18.9±0.71	18.8±1.00	18.8±1.08
	OA	17.9±1.56	17.5±0.27	17.2±0.98	18.5±0.39	18.7±0.07
	OB	19.0±0.56	17.0±1.42	17.0±0.24	17.5±1.85	17.8±0.07
C18:3 n-3	C	2.17±0.52	1.56±0.21	1.99±0.10	2.85±0.14	3.43±0.42
	OA	2.22±0.47	1.68±0.35	1.97±0.12	2.92±0.48	3.17±0.02
	OB	2.15±0.41	1.73±0.55	1.87±0.53	1.99±0.51	2.67±0.40
C20:4 n-6	C	18.1±2.21	19.1±2.94	18.8±2.59	15.0±0.46	13.7±0.56
	OA	15.2±1.75	20.4±0.52	16.9±1.31	15.0±0.46	15.2±2.50
	OB	16.1±0.42	20.1±4.31	19.7±0.99	17.9±2.40	16.3±0.27
C20:5 n-3	C	1.70±0.37	1.58±0.13	1.21±0.25	1.39±0.13	1.25±0.42
	OA	1.27±0.08	1.61±0.31	1.22±0.29	1.61±0.23	1.50±0.23
	OB	1.32±0.11	0.94±0.17	1.16±0.45	1.50±0.28	1.23±0.02
C22:5 n-3	C	0.72±0.01	0.61±0.06	0.66±0.10	0.55±0.03	0.71±0.21
	OA	0.56±0.03	0.62±0.00	0.63±0.11	0.76±0.05	0.60±0.18
	OB	0.63±0.01	0.47±0.01	0.53±0.09	0.65±0.12	0.60±0.08
C22:6 n-3	C	3.39±0.42	3.17±0.40	3.12±0.37	2.96±0.06	2.68±0.02
	OA	3.00±0.53	3.40±0.10	3.35±0.22	3.19±0.33	2.93±0.11
	OB	2.92±0.58	3.52±0.32	3.30±0.02	3.31±0.54	3.58±0.01
SFA	C	24.5±1.45	25.5±0.93	26.7±1.08	24.2±0.58	24.4±1.04

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
SFA	OA	24.4±2.73	25.9±0.59	26.8±0.09	23.7±1.11	23.8±0.34
	OB	23.8±1.32	26.3±1.88	25.5±1.17	25.9±2.56	24.9±0.91
MUFA	C	30.0±3.29	30.6±3.33	27.9±2.82	33.6±0.75	34.5±2.50
	OA	35.2±2.77	28.4±0.39	31.4±0.01	33.8±0.89	33.6±3.60
	OB	33.7±1.36	29.6±4.60	30.4±0.51	30.5±3.17	32.3±0.73
PUFA	C	45.2±1.95	43.6±2.41	45.1±1.77	42.0±0.25	40.8±1.33
	OA	40.3±0.04	45.5±0.28	14.6±0.12	42.4±0.31	42.3±3.09
	OB	42.4±0.06	43.9±0.84	43.9±0.60	43.2±0.38	42.5±0.32

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet. PUFA: polyunsaturated fatty acids. SFA: saturated fatty acids.

Values are expressed as MEAN±SD.

Table S7: Composition of selected fatty acids in the liver.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
C16:0	C	11.3±0.47	11.5±0.23	12.2±0.26	12.4±0.87	12.7±1.27
	OA	12.2±0.69	10.8±0.54	12.8±0.44	11.7±0.23	12.0±0.33
	OB	11.5±0.80	12.3±0.47	11.8±0.24	11.5±0.69	12.9±0.04
C16:1	C	0.80±0.14	1.06±0.03	0.79±0.05	0.93±0.10	0.88±0.23
	OA	0.95±0.07	0.81±0.35	0.95±0.03	0.94±0.07	0.90±0.05
	OB	0.92±0.03	0.82±0.12	0.97±0.15	0.99±0.18	0.81±0.00
C18:0	C	18.4±0.88	18.7±0.51	18.8±0.02	19.0±0.36	19.6±0.59
	OA	19.1±1.24	18.8±0.36	18.8±0.00	18.5±0.43	19.0±0.02
	OB	18.3±0.39	19.3±0.58	18.2±0.76	18.7±0.66	18.8±0.21
C18:1	C	19.0±1.04	18.7±0.08	18.6±0.42	18.3±0.08	16.9±2.01
	OA	17.9±0.58	18.7±0.22	18.9±0.69	18.3±0.11	17.8±0.56
	OB	19.2±0.36	19.0±0.18	20.8±1.20	19.3±2.20	17.9±0.04
C18:2 n-6	C	12.4±0.21	12.0±0.45	13.2±1.01	12.0±0.59	12.5±0.08
	OA	11.3±0.86	11.7±0.47	12.1±1.11	11.9±0.14	12.5±0.79
	OB	12.7±0.00	11.2±0.47	12.2±0.82	11.6±0.28	11.5±0.25
C18:3 n-3	C	0.91±0.41	0.82±0.06	1.23±0.09	1.09±0.09	1.21±0.02
	OA	0.83±0.04	0.94±0.02	1.03±0.14	1.14±0.00	1.18±0.19
	OB	0.96±0.09	0.83±0.10	0.99±0.14	1.06±0.23	1.06±0.02
C20:4 n-6	C	19.2±0.09	20.0±0.20	19.0±0.72	18.8±0.48	18.8±0.23
	OA	19.9±0.00	20.0±0.86	18.4±0.94	18.8±0.03	19.0±0.51
	OB	19.2±0.97	20.3±0.00	19.2±1.49	19.1±1.73	18.8±0.05
C20:5 n-3	C	1.99±0.31	1.93±0.11	1.39±0.21	1.90±0.28	1.92±0.32
	OA	1.78±0.29	1.93±0.34	1.50±0.28	2.16±0.12	2.21±0.01
	OB	1.85±0.02	1.13±0.07	1.42±0.47	1.96±0.66	1.57±0.03
C22:5 n-3	C	1.67±0.12	1.44±0.13	1.56±0.06	1.30±0.02	1.67±0.15
	OA	1.33±0.27	1.70±0.11	1.45±0.17	1.66±0.16	1.44±0.49
	OB	1.51±0.07	1.13±0.10	1.22±0.15	1.47±0.07	1.35±0.09
C22:6 n-3	C	11.1±0.81	10.9±0.02	10.4±0.99	11.2±0.05	11.1±1.19
	OA	11.8±0.70	11.5±0.61	11.4±0.88	11.5±0.66	11.1±0.99
	OB	10.9±1.07	11.4±0.35	10.5±0.51	11.0±0.35	12.4±0.16
SFA	C	30.6±0.40	31.1±0.74	31.8±0.23	32.2±0.35	33.1±1.75

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
SFA	OA	32.2±1.73	30.5±1.04	32.4±0.44	31.1±0.18	31.8±0.43
	OB	30.7±0.34	32.2±0.05	30.8±0.92	31.1±0.16	32.4±0.26
MUFA	C	20.5±0.99	20.4±0.03	20.0±0.48	19.9±0.18	18.3±2.29
	OA	19.4±0.81	20.2±0.11	20.4±0.71	20.1±0.46	19.3±0.49
	OB	20.8±0.36	20.4±0.21	22.4±1.32	21.2±1.85	19.3±0.02
PUFA	C	48.9±0.59	48.5±0.77	48.2±0.26	47.8±0.02	48.5±0.54
	OA	48.3±0.92	49.3±1.14	47.2±0.27	48.8±0.63	48.9±0.06
	OB	48.5±0.01	47.4±0.26	46.9±0.40	47.7±1.68	48.2±0.24

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet. PUFA: polyunsaturated fatty acids. SFA: saturated fatty acids.

Values are expressed as MEAN±SD.

Table S8: Composition of selected fatty acids in the adipose tissue.

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
C16:0	C	9.52±0.80	10.1±0.28	10.8±0.46	9.87±0.23	10.8±0.93
	OA	10.2±0.09	8.89±0.54	10.4±0.81	9.73±0.62	9.92±0.00
	OB	9.04±0.32	10.1±0.03	10.4±0.10	9.62±0.02	10.6±0.01
C16:1	C	1.64±0.08	20.0±0.08	1.79±0.11	1.78±0.16	1.91±0.19
	OA	0.89±0.01	1.58±0.09	1.83±0.22	1.75±0.08	1.87±0.13
	OB	0.77±0.08	1.74±0.18	1.94±0.14	7.98±0.17	1.86±0.10
C18:0	C	1.98±0.23	2.04±0.08	2.12±0.06	2.04±0.07	1.97±0.07
	OA	1.95±0.28	2.06±0.08	2.07±0.01	2.10±0.04	2.03±0.20
	OB	1.83±0.02	2.08±0.11	1.99±0.12	1.94±0.06	2.10±0.08
C18:1	C	63.2±0.56	63.0±0.29	60.2±0.99	61.7±0.08	60.5±1.43
	OA	63.0±0.76	64.1±0.55	62.5±0.19	62.1±0.94	61.5±0.46
	OB	64.4±0.23	63.0±0.89	62.1±0.30	62.8±0.28	61.4±0.63
C18:2 n-6	C	18.0±0.15	17.6±0.10	19.0±0.28	18.3±0.37	18.6±0.15
	OA	17.4±0.09	18.2±0.10	17.8±0.73	18.3±0.06	18.4±0.33
	OB	17.8±0.26	17.7±0.55	18.0±0.18	17.7±0.04	18.1±0.10
C18:3 n-3	C	3.57±0.17	3.08±0.10	3.73±0.11	4.21±0.07	4.08±0.04
	OA	3.43±0.09	3.10±0.08	3.24±0.22	3.87±0.17	4.16±0.13
	OB	3.24±0.13	3.23±0.32	3.39±0.15	3.82±0.09	3.76±0.17
C20:4 n-6	C	0.22±0.00	0.18±0.01	0.23±0.02	0.24±0.04	0.20±0.02
	OA	0.23±0.07	0.21±0.01	0.19±0.01	0.22±0.03	0.21±0.02
	OB	0.19±0.02	0.27±0.07	0.22±0.02	0.21±0.01	0.21±0.06
C20:5 n-3	C	0.05±0.00	0.03±0.00	0.05±0.00	0.04±0.01	0.05±0.00
	OA	0.05±0.01	0.04±0.00	0.04±0.01	0.05±0.01	0.05±0.01
	OB	0.04±0.01	0.04±0.01	0.04±0.00	0.04±0.00	0.05±0.01
C22:5 n-3	C	0.11±0.02	0.08±0.00	0.13±0.00	0.09±0.01	0.16±0.02
	OA	0.11±0.02	0.09±0.01	0.09±0.01	0.13±0.05	0.12±0.04
	OB	0.10±0.02	0.10±0.01	0.10±0.00	0.10±0.01	0.12±0.03
C22:6 n-3	C	0.11±0.02	0.09±0.01	0.14±0.02	0.12±0.02	0.13±0.05
	OA	0.14±0.06	0.10±0.01	0.09±0.01	0.13±0.08	0.12±0.02
	OB	0.11±0.02	0.14±0.05	0.13±0.02	0.12±0.01	0.14±0.07
SFA	C	12.2±0.57	12.9±0.36	13.7±0.56	12.6±0.23	13.6±1.00

Variable	Cultivation system	Year 1			Year 2	
		Fou	Jyn	Fla	Fou	Jyn
SFA	OA	12.9±0.40	11.7±0.49	13.3±0.85	12.6±0.56	12.7±0.23
	OB	11.6±0.28	12.9±0.07	13.2±0.02	12.3±0.01	13.5±0.08
MUFA	C	65.6±0.58	65.9±0.19	62.8±0.91	64.2±0.09	63.1±1.23
	OA	65.6±0.74	66.4±0.67	65.1±0.07	64.6±0.82	64.1±0.36
	OB	66.9±0.22	65.5±1.09	64.8±0.39	65.6±0.04	64.0±0.55
PUFA	C	22.2±0.05	21.3±0.16	23.4±0.38	23.1±0.42	23.3±0.16
	OA	21.6±0.33	21.9±0.17	21.6±0.91	22.8±0.29	23.2±0.63
	OB	21.6±0.45	21.7±1.00	22.0±0.38	22.1±0.09	22.5±0.49

* C: conventional dietary group; OA: organic livestock manure based dietary group; OB: organic green manure based dietary group. CO: control diet. PUFA: polyunsaturated fatty acids. SFA: saturated fatty acids.
Values are expressed as MEAN±SD.