Table S1. Average values of resistance (Rs), reactance (Xc), impedance (Z), distance between electrodes (D) , animal body length (L) and Body Weight (BW) of the validation group rabbits (n=5) at 25, 35, 49, 63 and 77 days of age

Age, d	[1]	Rs, Ω	Xc, Ω	Z, Ω	D, cm	L, cm	BW, g
25	Mean	121	16.4	122	10.1	18.0	370
	Min	89.5	10.0	90.2	6.00	12.0	196
	Max	169	23.5	170	12.5	22.0	507
	SD	21.3	4.06	21.5	1.64	2.79	105
35	Mean	92.9	16.8	94.4	10.5	21.0	634
	Min	67.5	12.0	68.6	7.25	18.0	405
	Max	115	19.5	116	13.0	27.0	1129
	SD	13.3	1.97	13.3	1.50	2.30	178
49	Mean	93.7	21.9	96.2	12.7	27.4	1220
	Min	81.5	18.5	83.6	10.7	26.0	926
	Max	109	27.0	111	14.5	30.0	1436
	SD	10.3	2.48	10.2	1.20	1.43	178
63	Mean	101	24.5	104	16.3	30.5	1912
	Min	54.5	20.0	60.0	14.0	25.0	1573
	Max	128	29.0	131	18.5	35.0	2228
	SD	15.6	2.45	15.3	1.39	2.02	210
77	Mean	63.0	16.2	65.0	18.5	33.8	2930
	Min	45.0	11.0	46.3	14.0	31.0	2090
	Max	95.5	25.5	98.9	21.0	39.0	3260
	SD	14.6	3.89	15.1	2.04	2.38	321

[1]Min: minimum value; Max: maximum value; SD: standard deviation

Table S2. Average values of resistance (Rs), reactance (Xc), impedance (Z), distance between electrodes (D) , animal body length (L) and Body Weight (BW) of the validation group rabbits (n=5) at 25, 35, 49, 63 and 77 days of age.

Age, d	[1]	**Rs, Ω**	**Xc, Ω**	**Z, Ω**	**D, cm**	**L, cm**	**BW, g**
25	Mean	130	18.5	132	10.5	17.2	378
	Min	105	14.5	106	9.00	16.0	361
	Max	151	24.5	153	12.7	19.0	392
	SD	21.5	3.94	21.7	1.38	1.30	135
35	Mean	95.8	18.9	97.7	10.9	21.3	644
	Min	80.5	14.5	81.8	9.50	20.0	630
	Max	114	24.0	116	12.5	23.0	654
	SD	14.2	3.54	14.5	1.15	1.40	90.1
49	Mean	89.2	22.0	91.9	14.2	21.3	1,291
	Min	87.5	21.5	90.1	13.7	20.0	1,283
	Max	91.0	22.5	93.7	14.7	23.0	1,299
	SD	2.47	0.71	2.57	0.71	1.39	113
63	Mean	99.3	24.3	102	15.7	30.6	1,938
	Min	80.5	20.5	83.1	14.5	29.0	1,911
	Max	113	27.0	116	16.5	33.0	1,970
	SD	15.2	3.06	15.4	0.86	1.52	243
77	Mean	75.2	14.5	76.7	14.2	27.7	2,985
	Min	57.5	11.0	59.7	13.7	25.5	2,969
	Max	84.5	17.0	85.6	14.7	30.0	3,020

	SD	12.3	2.64	11.7	0.71	3.18	241

[1]Min: minimum value; Max: maximum value; SD: standard deviation

Table S3. Correlation Matrix between bioelectrical impedance analysis and carcass composition expressed as a percentage of calibration group rabbits (*n*=75)[1].

	Xc, Ω	Rs, Ω	Water, %	Protein, %DM	Fat, %DM	Ash, %DM	Energy, kJ/100 g DM	BW, g	Age, d	L, cm	D, cm	Carcass yield, %
Xc, Ω	1	0.35**	−0.22	0.01	0.24*	−0.10	0.18	0.16	0.08	−0.05	0.30**	0.84****
Rs, Ω		1	0.55****	0.40****	−0.44****	0.54****	−0.55****	−0.63****	−0.63****	−0.04	−0.58****	0.81****
Water, %			1	0.88****	−0.97****	0.96****	−0.98****	−0.98****	−0.97****	−0.17	−0.94****	0.80****
Protein, %DM				1	−0.93****	0.88****	−0.88****	−0.86****	−0.89****	−0.29*	−0.75****	−0.54****
Fat, %DM					1	−0.93****	0.95****	0.95****	0.95****	0.18	0.89****	−0.36****
Ash, %DM						1	−0.99****	−0.94****	−0.95****	−0.19	−0.85****	0.83****
Energy, kJ/100 g DM							1	0.97****	0.97****	0.16	0.90****	0.65****
BW, g								1	0.99****	0.12	0.96****	0.84****
Age, d									1	0.21	0.93****	0.84****
L, cm										1	0.051	0.83****
D, cm												−0.41****
Carcass yield, %												1

[1]Xc = reactance; Rs = resistance; L = body length; D = distance between internal electrodes. *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$; ****$P < 0.0001$.

Table S4. Regression coefficients and SE for equations determined by MLR for predicting carcass water and protein content expressed as DM percentage and grams (*n*=75)

Dependent variable	Independent variable[1]	Estimate	SE	*P*-value	R^2	rsd[2]	CV	*P*m[3]	*Cp*[4]
Water, %	Intercept	68.8	3.31	<0.001	0.79	1.62	2.35	<0.001	2.29
	BW^2	-9.55×10^{-7}	1.44×10^{-7}	<0.001					
	L	−0.16	0.0805	0.05					
	Xc	0.68	0.3648	0.06					
	Xc^2	−0.019	0.0088	0.04					
	vol1	0.06	0.2706	0.05					
Water, g	Intercept	2.66	2.24	0.91	0.99	38.6	7.23	<0.001	0.92
	Age	1.68	1.18	0.16					
	BW	0.21	0.043	<.001					
	BW^2	3.80×10^{-5}	8.38×10^{-6}	<.001					
	vol2	16.7	5.39	0.003					
Protein, %DM	Intercept	75.2	5.19	<0.001	0.68	3.20	5.53	<0.001	2.39
	BW	0.0051	0.0018	0.006					
	BW^2	-3.22×10^{-6}	5.71×10^{-7}	<0.001					
	Rs	−0.26	0.10	0.01					
	Rs^2	9.75×10^{-4}	4.94×10^{-4}	0.05					
Protein, g	Intercept	41.4	27.0	0.13	0.99	13.2	9.16	<0.001	5.32
	BW	0.073	0.0098	<0.001					
	BW^2	8.84×10^{-6}	2.73×10^{-6}	0.002					
	Xc	−4.72	2.77	0.09					
	Xc^2	0.13	0.069	0.07					
	vol2	5.77	2.01	0.005					

[1]L: body length; Xc: reactance; Rs: resistance; Z: impedance; D: distance between internal electrodes; vol1: D^2/Rs; vol2: D^2/Z

[2]rsd = residual SD. [3]*P*m = probability of the model. [4] Mallows' Cp statistics [30].

Table S5. Regression coefficients and SE of the equations determined by MLR for predicting carcass ash and fat content expressed as DM percentage and grams (*n*=75)

Dependent variable	Independent variable[1]	Estimate	SE	*P*-value	R^2	rsd[2]	CV	*P*m[3]	*Cp*[4]
Ash, %DM	Intercept	7.31	3.72	0.05	0.66	1.83	11.9	<0.001	2.66
	Age	0.15	0.050	0.004					
	BW	−0.0053	9.63×10^{-4}	<0.001					
	Xc	0.93	0.37	0.01					
	Xc^2	−0.02	0.009	0.009					
Ash, g	Intercept	−7.09	3.62	0.05	0.96	5.02	14.1	<0.001	-1.19
	Age	0.19	0.11	0.10					
	BW	0.02	0.003	<0.001					

	Rs^2	1.97 x 10^{-4}	1.59 x 10^{-4}	0.22					
	vol2	1.45	0.66	0.03					
Fat, %DM	Intercept	16.9	1.32	<0.001	0.76	3.52	14.1	<0.001	4.61
	BW^2	2.41 x 10^{-6}	2.85 x 10^{-7}	<0.001					
	Xc^2	0.00796	0.002	0.001					
	vol1	−28.9	12.6	0.02					
	vol2	28.8	13.1	0.03					
Fat, g	Intercept	9.73	4.02	0.02	0.95	19.0	24.0	<0.001	0.27
	BW^2	2.94 x 10^{-5}	1.50 x 10^{-5}	<0.001					
	vol1	−97.4	66.3	0.15					
	vol2	93.6	68.9	0.18					

[1]Xc: reactance; Rs: resistance; Z: impedance; D: distance between internal electrodes; vol1: D^2/Rs; vol2: D^2/Z [2]rsd = residual SD. [3]*P*m = probability of the model. [4] Mallows' Cp statistics [30].

Table S6. Regression coefficients and SE of the equations determined by MLRfor predicting carcass energy content as kJ/100g DM and MJand carcass yield expressed as a percentage (*n*=75).

Dependent variable	Independent variable[1]	Estimate	SE	*P*-value	R^2	rsd^2	CV	*P*m[3]	*Cp*[4]
Energy, kJ/100 g DM	Intercept	2532	207	<0.001	0.82	102	4.59	<0.001	9.90
	Age	−9.21	2.80	0.002					
	BW	0.39	0.05	<0.001					
	Xc	−51.3	20.5	0.01					
	Xc^2	1.47	0.53	0.007					
Energy, MJ	Intercept	2.42	1.60	0.13	0.98	0.83	13.2	<0.001	-0.99
	BW^2	1.82 x 10^{-6}	3.11 x10^{-8}	<0.001					
	Xc	−0.19	0.17	0.27					
	Xc^2	0.006	0.004	0.19					
Carcass yield, %	Intercept	50.02	2.61	<0.001	0.50	4.73	8.78	<0.001	6.56
	BW^2	1.79 x 10^{-6}	2.20 x 10^{-7}	<0.001					
	Xc	−0.44	0.126	<0.001					
	Rs^2	7.41 x 10^{-4}	1.53 x 10^{-4}	<0.001					

[1]Xc: reactance; Rs: resistance [2]rsd = residual SD. [3]*P*m = probability of the model.[4] Mallows' Cp statitics [30].