ภาคผนวก ก

Table 1 Carcass weight and Chemical compositions of *Pectoralis* broiler chicken muscle at differing ages

Items	Age (weeks)						Level of Sig.
	2	4	6	8	10	12	
Live weight, grams	440.63±11.27[a]	1,220.80±44.35[b]	1,997.07±69.60[c]	2,744.13±142.69[d]	3,343.10±331.96[d]	3,841.60±415.76[e]	P<0.01
Carcass weight, grams	335.59±23.26[a]	941.15±92.03[b]	1,670.30±138.39[c]	2,231.25±319.02[d]	2,764.33±264.52[e]	3,108.34±298.49[f]	P<0.01
%Dressing	79.99±4.46[a]	81.99±2.53[b]	84.47±1.79[c]	85.54±1.80[c]	86.15±2.12[c]	86.25±2.32[c]	P<0.01
pH$_{24}$	5.69±0.56	5.68±0.43	5.65±0.55	5.50±0.54	5.71±0.89	5.60±0.17	NS
Proximate analysis							
-%Moisture	75.70±0.23[a]	75.10±0.06[b]	74.27±0.09[c]	73.87±0.59[c]	72.38±0.11[d]	71.93±0.19[e]	P<0.01
-%Crude protein	20.87±0.52[a]	20.73±0.32[ab]	20.35±0.20[b]	19.44±0.19[c]	19.54±0.34[c]	19.39±0.10[c]	P<0.01
-%Fat	2.78±0.56[a]	3.05±0.13[a]	2.85±0.06[a]	3.80±0.14[b]	5.78±0.22[c]	6.38±0.13[d]	P<0.01
-%Ash	1.63±0.10[a]	1.83±0.11[ab]	1.98±0.10[bc]	2.04±0.14[bc]	2.05±0.17[bc]	2.19±0.20[c]	P<0.01
Collagen							
-Total collagen, mg/g	4.29±0.38[a]	4.69±0.45[b]	5.04±0.44[bc]	4.83±0.38[bc]	4.98±0.58[bc]	5.51±0.68[c]	P<0.01
-Soluble collagen, %	42.55±3.20[a]	44.81±6.72[a]	43.21±3.80[a]	39.00±4.90[ab]	37.10±6.21[ab]	33.34±9.11[b]	P<0.05

Data are presented as mean ± standard deviation. (n = 30, for weight), n = 10 for chemical determination (5 birds x 2 determinations)
[a-f]Means with differing superscripts in the same row are significantly different.

Table 2 Physical characteristics of *Pectoralis* broiler chicken muscle at differing ages

Items	Age (weeks)						Level of Sig.
	2	4	6	8	10	12	
Muscle colour							
-L*	47.39±3.87[a]	51.17±4.10[b]	53.79±5.68[bc]	56.63±3.62[c]	54.76±4.97[c]	54.81±5.45[c]	P<0.01
-a*	4.14±0.99[a]	2.27±1.24[b]	1.38±1.30[c]	0.66±1.29[c]	0.53±1.17[c]	-0.77±2.02[d]	P<0.01
-b*	16.25±1.97[a]	14.47±2.47[b]	13.76±2.56[b]	13.76±3.49[b]	12.79±2.60[b]	9.51±3.28[c]	P<0.01
Skin colour							
-L*	63.25±3.05[a]	62.91±2.97[a]	62.42±3.35[a]	64.03±5.16[ab]	65.18±2.66[ab]	66.15±3.65[b]	P<0.05
-a*	4.55±1.95[a]	2.79±1.54[b]	0.51±1.58[c]	-0.33±1.33[c]	0.65±1.82[c]	-0.57±1.85[c]	P<0.01
-b*	21.37±3.77[a]	13.79±2.59[bc]	15.38±3.55[b]	14.05±5.36[bc]	14.85±5.04[bc]	11.52±5.16[c]	P<0.01
%Cooking loss	20.46±5.66[a]	20.93±2.72[a]	23.67±2.60[b]	24.68±1.48[bc]	26.20±1.12[c]	26.34±1.67[c]	P<0.01
Shear force, grams							
-Raw	905.38±114.13[a]	1,268.60±295.47[b]	1,289.83±251.55[b]	1,975.15±381.26[c]	2,072.25±419.57[c]	2,089.53±475.204[c]	P<0.01
-cooked	1,256.31±360.57[a]	1,383.47±319.77[a]	1,480.14±321.77[a]	2,178.64±676.84[b]	1,952.18±335.44[b]	1,962.47±633.35[b]	P<0.01

Data are presented as mean ± standard deviation, n = 20 (5 birds x 4 determinations)
[a-d]Means with differing superscripts in the same row are significantly different.

Table 3 Transformation temperature and denaturation enthalpy of *Pectoralis* broiler chicken muscle at differing ages

Items	Age (weeks)						Level of Sig.
	2	4	6	8	10	12	
Peak 1							
$-T_{onset}$(°C)	54.58±0.44 [a]	53.68±0.71 [ab]	53.44±0.81 [b]	51.86±0.91 [c]	51.12±1.57 [cd]	50.66±0.92 [d]	P<0.01
$-T_{peak}$(°C)	58.88±0.29 [a]	58.63±0.90 [a]	58.58±0.94 [a]	56.84±0.82 [b]	56.30±1.25 [bc]	55.72±0.65 [c]	P<0.01
-Enthalpy (J/g)	0.38±0.09	0.37±0.11	0.43±0.05	0.35±0.11	0.40±0.07	0.38±0.08	NS
Peak 2							
$-T_{onset}$(°C)	62.15±0.16 [a]	61.57±0.67 [a]	61.84±0.68 [a]	60.12±0.51 [b]	59.98±0.79 [b]	59.48±0.26 [b]	P<0.01
$-T_{peak}$(°C)	64.15±0.35 [a]	63.59±0.37 [b]	63.54±0.46 [b]	62.24±0.63 [c]	62.00±0.60 [cd]	61.62±0.48 [d]	P<0.01
-Enthalpy (J/g)	0.06±0.02	0.06±0.05	0.04±0.01	0.08±0.03	0.05±0.03	0.09±0.05	NS
Peak 3							
$-T_{onset}$(°C)	67.75±0.34 [a]	66.83±0.50 [b]	66.68±1.13 [b]	65.48±0.33 [c]	64.56±1.16 [d]	65.26±0.33 [cd]	P<0.01
$-T_{peak}$(°C)	70.09±0.38 [a]	69.74±0.31 [a]	68.68±1.30 [b]	67.70±0.60 [c]	67.54±0.54 [c]	67.24±0.35 [c]	P<0.01
-Enthalpy (J/g)	0.06±0.02	0.07±0.03	0.06±0.02	0.05±0.02	0.08±0.04	0.04±0.01	NS
Peak 4							
$-T_{onset}$(°C)	72.75±0.65 [a]	72.17±0.40 [b]	72.66±0.27 [ab]	71.00±0.65 [c]	70.78±0.19 [c]	70.94±0.11 [c]	P<0.01
$-T_{peak}$(°C)	74.05±0.42 [a]	73.80±0.31 [a]	74.18±0.69 [a]	72.70±0.56 [b]	72.84±0.33 [b]	72.72±0.08 [b]	P<0.01
-Enthalpy (J/g)	0.01±0.01 [b]	0.02±0.01 [ab]	0.03±0.02 [a]	0.01±0.00 [b]	0.01±0.01 [b]	0.01±0.00 [b]	P<0.05

Table 3 Continued

Items	Age (weeks)						Level of Sig.
	2	4	6	8	10	12	
Peak 5							
-T_{onset}(°C)	76.86±0.54[b]	76.68±0.32[b]	77.54±0.21[a]	75.94±0.57[c]	75.28±0.19[d]	74.80±0.19[e]	P<0.01
-T_{peak}(°C)	80.16±0.38[b]	79.71±0.39[a]	80.64±0.21[c]	79.12±0.43[d]	78.48±0.23[e]	78.00±0.25[f]	P<0.01
-Enthalpy (J/g)	0.32±0.12	0.30±0.06	0.30±0.02	0.42±0.17	0.30±0.06	0.26±0.10	NS

Data are presented as mean ± standard deviation, n = 10 (5 birds x 2 determinations)
[a-f]Means with differing superscripts in the same row are significantly different.

Table 4 Fibre diameter, sarcomere length and perimysium thickness of *Pectoralis* broiler chicken muscle at differing ages

Items	Age (weeks)						Level of Sig.
	2	4	6	8	10	12	
Fibre diameter, μm	19.75±2.94[a]	30.20±3.47[b]	35.66±4.48[c]	41.45±5.25[e]	37.76±4.51[d]	38.72±7.13[d]	P<0.01
Sarcomere length, μm	1.43±0.07[a]	1.46±0.04[b]	1.47±0.05[bc]	1.50±0.05[d]	1.48±0.10[bc]	1.49±0.11[cd]	P<0.01
Perimysium thickness, μm	3.50±0.064[a]	7.00±0.11[b]	8.05±0.08[bc]	9.09±0.01[cd]	9.05±0.05[cd]	10.08±0.01[d]	P<0.01

Data are presented as mean ± standard deviation. n = 150 (5 birds x 3 video prints x 10 areas)
[a-f]Means with differing superscripts in the same row are significantly different.