

PUFA Losses after Cooking of Chicken Meat

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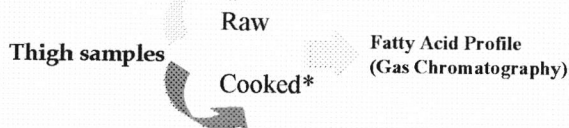
OBJECTIVE

To study the changes of the fatty acid (FA) profile of Long-Chain omega-3 (LCn3) enriched meat after cooking under consumer conditions

MATERIALS AND METHODS

100 unsexed 1-d-old Cobb chickens
Two dietary treatments
Basal diet + 8% added fat

Experimental treatments		Fatty acid profile (%)	
T1,	4% Tallow + 4% Linseed Oil	LA	-15.84
		LNA	-28.08
		LCN3	- 0.00
T2,	4% Tallow + 4% Fish Oil	LA	- 9.81
		LNA	- 1.37
		LCN3	- 9.48

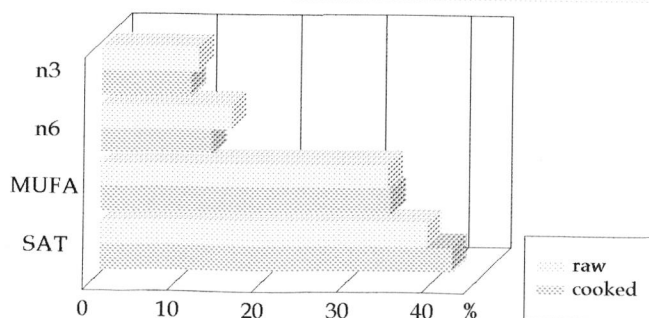


*Samples were cooked in a double-plated grill until 85°C of internal temperature was reached.

RESULTS

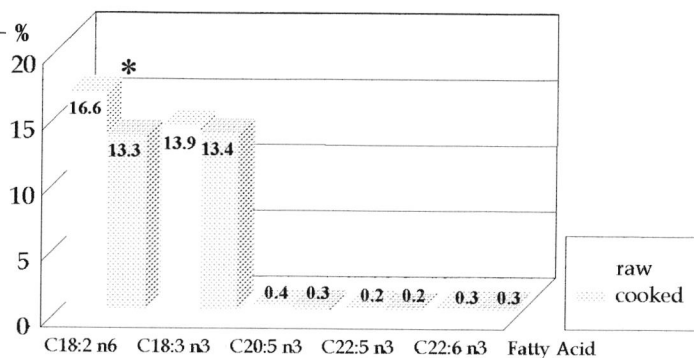
Processing of the samples had an important influence on the fatty acid (FA) profile of the meat. Polyunsaturated FA (PUFA, n3 and n6 families) content was significantly lower in cooked samples ($P < 0.001$), thus affecting the relative percentage of saturated (SAT), which rose to the highest values after cooking. Changes in monounsaturated FA (MUFA) were unnoticeable.

Figure 1-Fatty acids of raw and cooked thigh meat.



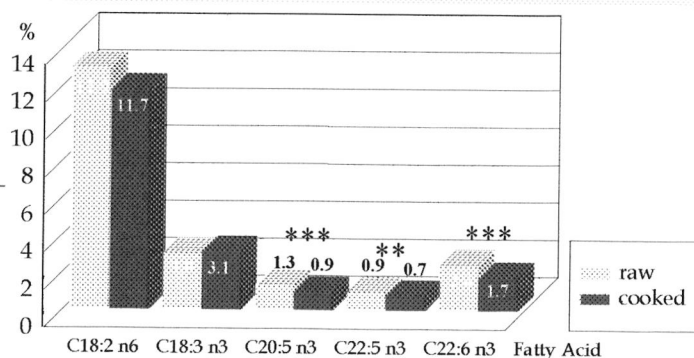
Losses experienced in the LO + T samples (T1) were almost restricted to linoleic acid (LA), as seen in Figure 2.

Figure 2-Fatty acids of raw and cooked T1 thigh meat.



T2 samples (Fish oil + Tallow, Figure 3) experienced the most important losses among the n-3 LC PUFA content and, in a lesser extent, in the LA amount.

Figure 3-Fatty acids of raw and cooked T2 thigh meat.



CONCLUSION

PUFA are proved to be easily introduced into poultry products, but also to be rather susceptible to be destroyed -and disappear- after processing. Further studies are needed to thoroughly know the destruction suffered by the PUFA group and the efficient mechanisms to avoid it in order to guarantee the real intake in such nutritionally interesting FA.