

Comparative egg yolk fatty acid profile of Aseel and Guinea fowl

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Fatty acid (FA) composition of egg yolks of Aseel and Guinea fowl maintained under intensive system of management at Poultry Research Station, TANUVAS was determined chromatographically and compared. A total of 12 eggs comprising of six eggs from each Aseel and Guinea fowl, collected at 40th week of age were utilized for this study. Myristic acid (C14:0), Palmitic acid (C16:0), Stearic acid (C18:0), Arachidic acid (C20:0), Behenic acid (C22:0), Oleic acid (C18:1 n9), Linoleic acid (C18:2 n6), Palmitoleic acid (C16:1), Linolenic acid (C18:3 n3), Ecosapentaenoic acid (EPA - 20:5(n-3)), and Docosahexaenoic acid (DHA-22:6(n-3)) were determined and saturated fatty acids (SFA), polyunsaturated fatty acids (PUFA), monounsaturated fatty acids (MUFA), n-6 fatty acids, n-3 fatty acids, total unsaturated fatty acids (TUFA), PUFA/SFA ratio, PUFA/MUFA ratio and n-6:n-3 ratio were calculated. Guinea fowl eggs had significantly ($P<0.01$) lower total SFA (38.13 ± 1.88); higher Palmitoleic acid (9.03 ± 1.20), n3-Linolenic acid (0.98 ± 0.12), TUFA (58.54 ± 2.60), PUFA/SFA ratio (1.57 ± 0.16), PUFA (20.22 ± 1.58) and PUFA /SFA ratio (0.55 ± 0.07); significantly higher ($P<0.05$) n6-Linoleic acid (17.70 ± 1.58), total n3 fatty acids (2.53 ± 0.15) and PUFA/SFA ratio (0.53 ± 0.03). Aseel eggs had significantly ($P<0.01$) higher n-9 Oleic acid (MUFA) (30.81 ± 0.48) and lower Arachidic acid (0.45 ± 0.04). The Ecosapentaenoic Acid, Docosahexaenoic acid and n-6:n-3 ratio did not differ significantly between eggs studied. It is concluded that eggs of Aseel and Guinea fowl were found valuable for human consumption as fatty acids source but the Guinea fowl eggs were found to be most beneficial due to their higher total n-3 fatty acid, n-6 Linoleic acid, TUFA, PUFA, PUFA/SFA, PUFA/MUFA ratio and PUFA/SFA ratio.

Biography

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