

## THE CONTENT OF FAT AND FATTY ACIDS COMPOSITION IN CHICKEN LIVER

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Abstract

**Abstract:** Liver is recognized as a valuable source of nutrients in human nutrition but there are a few reports of the lipid profile of chicken liver. The aim of work was to determine fat content as well as fatty acids composition of raw chicken liver. The study was carried out on three chicken breeds (New Hampshire, Plymouth Rock, Rhode Island) obtained from National Research Institute of Animal Production in Balice. Total fat was determined by Soxhlet method and the fatty acids profile was performed with gas chromatography method on a Varian 3400. Fat content of chicken liver ranged from 2.65 to 10.07 g/100g depended on the breed. The predominant saturated acid (SFA) in all samples was palmitate (C16:0), followed by stearate (C18:0). Oleate (C18:1) was the major monounsaturated fatty acid (MUFA) in all samples, followed by palmitooleate (16:1). *n*-3 fatty acids in chicken liver were comparatively lower than SFA and MUFA. The predominant polyunsaturated acid (PUFA) was linoleate (C18:2). Arachidonate (C20:4) was the second most important *n*-6 fatty acid. Fatty acid content also varied between breeds of chicken. It has been demonstrated that conjugated linoleic acids (CLA) is found in chicken liver.

**Key words:** chicken liver, fat, fatty acids

## Sadržaj masti i sastav masnih kiselina u pilećoj jetri

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### Rezime

Jetra se smatra vrednim izvorom hranljivih materija u ljudskoj ishrani, ali ima vrlo malo studija koje se bave profilom lipida u jetri pilića. Cilj ovog rada je bio da se odredi sadržaj masti kao i sastav masnih kiselina sirove pileće jetre. Ispitivanje je urađeno na pilićima tri rase (novi hempšir, plimut rok, rod ajland) u nacionalnom istraživačkom institutu za stočarstvo u Balicama. Ukupni sadržaj masti je određivan metodom po Soxhlet-u a profil masnih kiselina gasnom hromatografijom na aparatu Varian 3400.

Sadržaj masti u pilećoj jetri bio je od 2,65 do 10,07 g/100g zavisno od rase. Preovlađujuća zasićena kiselina (SFA) u svim uzorcima je bila palmitinska kiselina (C16:0), zatim stearinska kiselina (C18:0). Oleinska kiselina (C18:1) je bila glavna mono-nezasićena masna kiselina (MUFA) u svim uzorcima, zatim palmitooleinska kiselina (16:1). Sadržaj n-3 masnih kiselina u pilećoj jetri je bio relativno nizak u odnosu na SFA i MUFA. Preovlađujuća poli-nezasićena masna kiselina (PUFA) bila je linoleinska (C18:2). Arahidonska kiselina (C20:4) je bila druga najvažnija n-6 masna kiselina. Sadržaj masnih kiselina je varirao zavisno od rasa. Takođe su utvrđene konjugovane linolne kisleine (CLA) u pilećoj jetri.

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