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Sterlet (*Acipenser ruthenus*)-chemical composition

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Abstract: Sturgeon meat has been studied less compared to other fish species, although it is highly valued by consumers due to its nutritional properties and special taste. Sterlet (*Acipenser ruthenus*) is a sturgeon fish also present in the Danube basin. Sterlet meat, like all the sturgeon fish, is rich in essential amino acids, vitamins, minerals and omega-3 fatty acids. Among the more important omega 3 fatty acids, docosahexaenoic acid (DHA) it is found in a proportion of $3.79 \pm 0.09\%$ and eicosapentaenoic acid (EPA) with a value of $4.93 \pm 0.09\%$. As regards the composition of saturated fatty acids, palmitic, stearic and myristic acid stands out. Also, the sturgeon meat and implicitly sterlet meat, contain vitamins such as niacin, pyridoxine, vitamin B12 and minerals: potassium, magnesium and phosphorus.

Keywords: sterlet, chemical composition, fatty acids, sturgeon, *Acipenser ruthenus*

• Introduction

Fish meat has a high degree of appreciation among consumers due to its high nutritional quality, but also the beneficial effects it has on health, being an essential food product in the human diet. This is an important source of polyunsaturated fatty acids, especially omega-3, whose role in protecting against cardiovascular disease and improving the immune system is important [10,11,12]. Sterlet (*Acipenser ruthenus*) is a freshwater sturgeon, present in the Danube basin, small compared to other sturgeons [2]. The distribution area of this fish is quite large, being found in most of the rivers flowing into the Caspian Sea, the Black Sea, the Baltic Sea, the White Sea, Barents, Kara and the Sea of Azov [3,4].



<https://www.markys.com/whole-sterlet-sturgeon-drawn-fish/>

• Results and discussions

The chemical composition of sterlet differs according to sex, degree of maturity, environment of origin, diet, etc. An essential element in aquaculture is fish nutrition. The composition of the feed, its quality and the way of delivery have a significant impact on the fish tissue and the biochemical indicators of the organs. According to a study conducted by Oleksyi Khudy et al., on young 6-month-old sterlet which were fed two types of commercial feed, the fatty acid composition varies according to their diet.

Also, the two types of forage had a major influence on the growth rate of the young sterlet. Fatty acid composition varies both between different species and within the same species.

According to the pilot study, monounsaturated fatty acids represented about 40% of the total fatty acids found in the muscles of young sterlet specimens. Of the monounsaturated fatty acids, oleic and palmitoleic fatty acids had the largest share. The main polyunsaturated fatty acids in muscle were linolenic, eicosapentaenoic and docosahexaenoic [14].

As regards the composition of saturated fatty acids, palmitic, stearic and myristic acid stands out. Also, the sturgeon meat and implicitly sterlet meat, contain vitamins such as niacin, pyridoxine, vitamin B12 and minerals: potassium, magnesium and phosphorus.

• Conclusions

Sterlet (*Acipenser ruthenus* L.) is an important and valuable sturgeon fish in terms of the ecological system as well as the economic one, which has attracted the attention of consumers and fish farmers.

Sterlet meat, but also of other sturgeons, has a special taste due to the presence of glutamic acid.

Sterlet meat, like all the sturgeon fish, is rich in essential amino acids, vitamins, minerals and omega-3 fatty acids.