

The Correlation of Biochemical Composition and Energy of Fillets with the Breeding Season of *Esox Lucius* in Fereydunkenar coastline, Mazandaran Province

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This study was conducted to examine the chemical composition (fat, protein, moisture, ash) and energy content of the *Esox Lucius* muscle, during sexual rest and sexual ripeness. The samples were collected from 16 *E. Lucius* in Fereydunkenar coastline, Mazandaran Province in March and July 2014. The level of chemical substances during the sexual rest and sexual ripeness was 5.22% and 3.94% of fat, 24.85% and 20.81% of protein, 77.12% and 79.01% of moisture, 0.78% and 1.35% of ash, 794.216 and 698.872 kJ per 100 g of fillet energy content which showed a decrease in the fat and protein content and an increase in the moisture of muscles during the sexual ripeness. The decrease in fat and protein content of the muscles might be due to the growth of gonads and other processes related to spawning in the fall, and restoration of the fat content in the spring might be due to the termination of the spawning season and appropriate feeding. According to Pearson Correlation, the fat and protein to energy of fillet relationship was strong. Fish energy of fillet to moisture content relationship was found to show significant negative regression.

Keywords: nutritional value, *Esox lucius*, sexual periods, Caspian Sea.