# The influence of sex steroids in commercial fish meals and fish diets on plasma concentration of estrogens and vitellogenin in cultured Siberian sturgeon

Sex steroid levels were determined in various commercial fish meals and complete diets. The results obtained demonstrate that estrone (E1), 17 β-estradiol (E2) and androgens (A) (testosterone and 11-ketotestosterone), are present in diets in high quantities (up to 935±350 ng/100 g for E2, 615±190 ng/100 g for E1 and 1100±120 ng/100 g for A) and with considerable variation both between different diets, and between different batches of the same diet. These high levels of sex steroids are thought to influence the sex steroid plasmatic levels and plasma vitellogenin content in fish. Plasma sex steroid assays in the Siberian sturgeon Acipenser baeri show that plasmatic 17 β-estradiol levels are never significantly different between males and females at various stages of oogenesis and spermatogenesis, except in 6 year old females in stage IV, which corresponds to the maximum incorporation of vitellogenin. In males the plasma 17 β-estradiol levels are exceptionally high and induce vitellogenin synthesis, as demonstrated by various chemical and immunological techniques.

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