THE EFFECT OF PHOTOPERIOD ON VITELLOGENIN SYNTHESIS AND OOCYTE ENDOCYTOSIS IN RAINBOW TROUT (*ONCORHYNCHUS MYKISS*)

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Introduction

Oocyte vitellogenesis is one of the best examples of cell specialization for specific endocytosis of proteins. Vitellogenin (VTG) a hepatically synthetized glycophospholipoprotein, the main plasma yolk precursor, is taken up selectively from blood and internalized into oocytes by a receptor-mediated mechanism.

Fish VTG receptors undergo seasonal fluctuations in both concentration and binding affinity during oocyte growth. This study deals with the influence of photoperiod on the binding characteristics of VTG to

around 30% greater for S than for N. Similarly, in both groups, increasing VTG levels appeared along with the VSD phase and peaked two weeks before spawning with maximum values around 30% greater for S than for N.

Transformation of VTG binding data to Scatchard plots indicated for both groups a single class of binding site for VTG. In spite of photoperiod modifications, VTG receptors remained saturable with N receptor preparations saturable faster than those of S. Binding data per 100 mm^2 of oocyte surface indicated in the S group a significant

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