

*(Oncorhynchus mykiss)*

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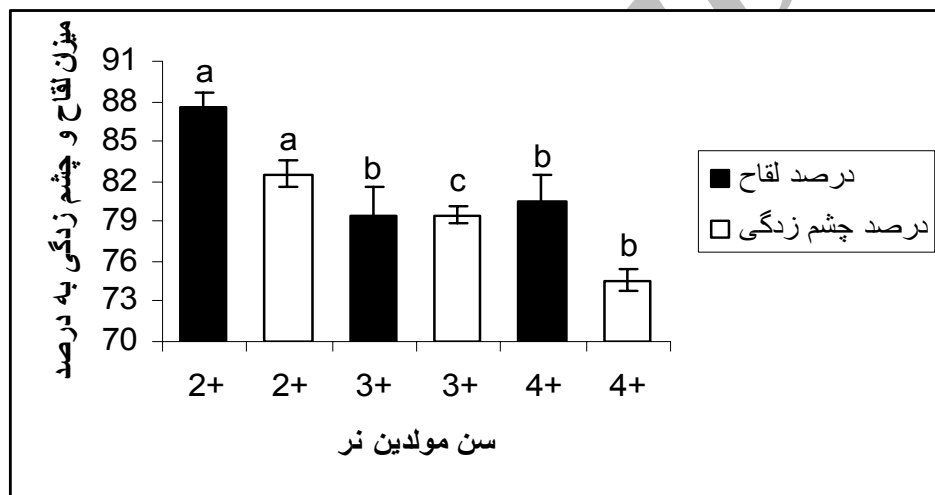
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clearing solution (Stockard's solution): Formaldehyde  
5%+ Acetic acid 4%



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Tekin

Liley

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Sockeye salmon (*Oncorhynchus nerka*)

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*Oncorhynchus* Liley  
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Hoysak and Liley

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Tekin

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Moccia and Munkittrick

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*Acipenser persicus*

GnRH

*Mugil cephalus*

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## Correlation of Sperm Quality of Different Rainbow Trout (*Oncorhynchus mykiss*) Brood stocks in Propagation Process

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### Abstract

In this research, 15 male brood stocks in three age groups of 2<sup>+</sup>, 3<sup>+</sup> and 4<sup>+</sup>, and 8 female brood stocks were used in order to study the correlation between the spermatocrit and the period of sperm motility as a qualitative indicator, on the one hand, and the fertilization rate and the formation rate of eyed eggs, on the other hand, were used. Five brood stocks were used in each age group. Results of the research showed that correlation between spermatocrit of male brood stocks in the same age group with fertilization rate ( $r=0.804$ ) and eyed egg ( $r = 0.836$ ) is positive and significant. Correlation between spermatocrit of male brood stocks in one age group and the duration of motility was negative and significant ( $r=-0.374$ ), and correlation between duration of motility with fertilization rate ( $r = 0.271$ ) and eyed egg ( $r = 0.031$ ) was not significant. There was a significant difference in the average spermatocrit of various male age groups ( $P \geq 0.05$ ) while 2<sup>+</sup> years males were the highest ( $32.66 \pm 0.46\%$ ) and 3<sup>+</sup> years males were lowest ( $23/26 \pm 0/18\%$ ) percentage of spermatocrit in this range. 2<sup>+</sup> years males showed lowest duration of motility ( $24.50 \pm 0.2$  sec), and 4<sup>+</sup> years males showed the highest time ( $27.40 \pm 0.14$ ) at ( $P \leq 0.03$ ). Fertilization rate in 2<sup>+</sup> years male were highest ( $87.52 \pm 1.16$ ) and had significant difference as compared to 3<sup>+</sup> ( $79.39 \pm 2.2$ ) and 4<sup>+</sup> ( $80.45 \pm 2.02$ ) male ages ( $P \leq 0.031$ ). Eyed eggs in 2<sup>+</sup> years male were highest ( $82.52 \pm 1$ ) and had significant difference with others groups while 3<sup>+</sup> years males ( $74.60 \pm 0.8$ ) showed lowest eyed egg rate.

**Keyword:** Spermatocrit, Sperm motility, Fertilization, *Oncorhynchus mykiss*, Iran

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