CERTIFICATE

OF ATTENDANCE

This is to certify that Amir Parviz Salati

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The effect of *Pediococcus acidilactici* (Bactocell) on reproductive performance in zebra fish (*Danio rerio*) females

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A 60-day feeding trial was conducted on zebra fish (*Danio rerio*) to assess the effects of different levels of bacteria. *Pediococcus acidilactici* including 0. 1 × 109. 2 × 109. 4 × 109 and 8 × 109 CFU/Kg on sexual maturation. reproduction indices and *CYP19a* expression in zebra fish (*Danio rerio*). At the end of study. fish were euthanized and gonad samples were taken. Reproduction indices such as gonad weight. number and diameter of the eggs and fecundity. were more in the experimental treatments than the control too. The maximum amount of gonadosomatic index (GSI) (20.07 ± 0.20) was in the 4th treatment and the least amount (8.15 ± 0.01) was in the control treatment. Also considering to the gene expression. the maximum amount of *CYP19a* expression was in the 4th treatment that caused increasing the growth of gonads in this treatment. At a general conclusion it can be acclaim that 4th and 5th treatment, especially the 4th treatment, had better result in the most of studied indices; therefore it is suggested using of *P. acidilactici* at 0.4 g per Kg of the food (4×10^6 cfug^{-1}). for improving the sexual maturation and reproduction indices of zebra fish.

Keywords: zebra fish, *Danio rerio*, *Pediococcus acidilactici*, reproductive performance, female.