

论文

不同年龄花羔红点鲑非特异性免疫指标的比较

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摘要:

比较分析了流水养殖池中不同年龄(1~4龄)健康花羔红点鲑血液氯化硝基四氮唑蓝阳性细胞数(NBT阳性细胞数)、超氧化物歧化酶活力、碱性磷酸酶活力、酸性磷酸酶活力、溶菌酶活力、抗菌活力、溶血素含量及酚氧化酶活力。结果表明:各年龄免疫指标中NBT阳性细胞数、抗菌活力、溶血素和酚氧化酶活力无显著变化,其余各指标均有显著性变化。超氧化物歧化酶活性随年龄增长呈先下降后上升趋势,4+龄鱼超氧化物歧化酶活力与1+龄鱼无显著差异(P>0.05),显著高于2+龄鱼(P<0.05),显著低于3+龄鱼(P<0.05);血清中碱性磷酸酶活性和酸性磷酸酶活性均随年龄增长先上升后趋于稳定,碱性磷酸酶2+龄鱼最高,与1+龄鱼差异显著(P<0.05),2+,3+,4+龄鱼之间无显著差异,且3+,4+龄鱼都显著高于1+龄鱼(P<0.05),酸性磷酸酶活性1+龄鱼显著低于2+,3+,4+龄鱼(P<0.05),2+,3+,4+龄鱼之间血清酸性磷酸酶活性相对稳定,无显著差异(P>0.05);血清溶菌酶活性随鱼体不同年龄的变化而变化,4+龄鱼血清溶菌酶活性显著高于1+,2+龄鱼(P<0.05),与3+龄鱼差异不显著(P>0.05)。

关键词: 花羔红点鲑 非特异性免疫; 体液免疫因子

Comparative Studies on Nonspecific Immunity Indexes of Different Ages of Dolly Varden *Salvelinus malma*

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Abstract:

The comparative studies on the indexes of nonspecific immunity of age 1+—age 4+ Dolly varden *Salvelinus malma* from breeding pool were conducted. The results were as follows: The findings indicated that the nonspecific immunity indexes of Dolly varden *Salvelinus malma* had changes in different growth periods. NBT positive cell, superoxide dismutase (SOD) activity, alkaline phosphatase (ALP) activity, acid phosphatase (ACP) activity, lysozyme (LZM) activity, antibiosis activity, phenol oxidase (PO) activity and hemolysin activity of blood serum were analyzed. The NBT positive cell, PO activity and hemolysin activity did not show (P>0.05) significant differences in different ages. The SOD activity in age 4+ and age 1+ had no significant (P>0.05) differences. In comparison with age 2+ and age 3+, the SOD activity of age 4+ was significantly (P<0.05) high. The ALP and ACP activity were increased with growth and then reached a stable situation. The ALP activity in age 2+ was the highest, and had significant (P<0.05) difference compared to age 1+. There were no significant (P>0.05) differences among age 2+, age 3+ and age 4+. The ACP activity of age 1+ was significantly (P<0.05) lower compared to age 2+, age 3+ and age 4+. No significant (P>0.05) differences were obtained in age 2+, age 3+ and age 4+. The LZM activity of blood serum in age 1+, age 2+ and age 3+ was not significantly (P>0.05) different. In age 4+ it was significantly (P<0.05) different compared to age 1+ and age 2+, but no significant (P>0.05) differences were found compared to age 3+. In conclusion, the nonspecific immunity indexes showed changes among different ages. The results provided useful information to study nutrition immunology and physiology of Dolly varden *Salvelinus malma*.

Keywords: Dolly varden *Salvelinus malma*; nonspecific immunity function; humoral immune factor

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