عنوان مقاله:

Using RAPD markers potential to identify heritability for growth in Fenneropenaeus indicus

محل انتشار:

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خلاصه مقاله:

Sampling was done using ۹۰ post larvae which were produced by reproduction of some broodstocks of Fenneropenaeus indicus in one day and reared in the same situation for ۴ months. Samples were divided into ۳ groups: high, medium and low growth (based on weight and length). Genomic DNA was extracted from muscle tissue using the phenol-chloroform method. The polymerase chain reaction (PCR) was carried out using ۲۱ RAPD loci and PCR products were separated on ۳% Agarose gel. From ۲۱ loci studied, ۱۲ produced polymorphic bands. The most polymorphic produced bands using OPAQ ۹ and the least by OPAQ ۷. Search for specific markers in F. indicus one specific band was observed in the low growth group using OPAQ۴. The highest genetic distance (۰.۴۵۷) was between the low growth group and the medium and the lowest (۰.۰۹۱) between high growth and medium groups, therefore the highest genetic identity (۰.۹۱۲) was between high growth and medium groups and the lowest (۰.۶۳۳) between low growth group and the medium. Neighbor-joining resulted in two groups, the first including high and medium growth groups and the second low growth group. It appears that low growth group depended on separated population. Considering the mean weight of F۱ (mean weight of ۹۰ specimens) (۱۶.۲۵±۱.۵ g), parental generation mean weight of ۱۵ ±۱.۲ and mean weight of parent ۳۱.۶ g, response to selection (R) and heritability for growth in this species were estimated to be ۱.۲±۰.۲ and ۰.۰۷±۰.۰۱ respectively.

کلمات کلیدی:

Feneropenaeus indicus, RAPD marker, Heritability, Growth, Iranian Fisheries