Microsatellite variability analysis in farmed catfish (Ictalurus punctatus) from Tamaulipas, Mexico

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Abstract:

Analysis of cultured catfish from six farms in Tamaulipas, Mexico was achieved using a combination of microsatellite PCR analysis and semiautomatic fluoresce-based detection, in order to provide a first assessment of the genetic variability on cultured catfish in Mexico. Five microsatellites showed extensive polymorphism with allele numbers ranging from 10 and 20. Overall observed heterozygosity at each locus ranged between 0.76 and 0.91 and the average polymorphic information content (PIC) for the five loci was 0.811, indicating that these loci can be used for studies of paternity identification, linkage and population genetics. On the basis of the FST values (FST = 0.03829; p = 0.00000) it appears that there was a small amount of genetic differentiation between the channel catfish stocks. The high intrapopulation allelic diversity was the most remarkable parameter.