

Microsatellite Analysis of Genetic Diversity in Pekin, Alabio, and Their Crossbred Duck Populations

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ABSTRACT : Identification of gene responsible for the molting process in poultry based on microsatellite markers is expected to lead into better control of molting in local breeds of layer ducks in Indonesia. The genetic structure of Pekin, Alabio and their crossbred duck populations were analyzed using nine microsatellite markers. DNA samples from twenty birds of each genotype was extracted and amplified using the microsatellite primers through PCR. The PCR products were then separated using polyacrylamide gel electrophoresis, and stained with silver nitrate. All nine microsatellite markers showed high polymorphism on all populations. AY49 detected 5 alleles (200-250bp), AY50 detected 8 alleles(250-320bp), AY56 detected 4 alleles (130-145bp), AY61 detected 7 alleles (170-210bp), AY64 detected 5 alleles (185-210bp), AY67 detected 3alleles (130-140bp), AY69 detected 5 alleles (250-300bp), AY71 detected 4 alleles (130-145bp), and AY80 detected 4 alleles (225-240bp). Everyalleleon parental populations were inherited randomly on their filial.A fewallelessuch asallele 230bp in AY49, allele 145bp in AY56, allele 205bp in AY64, Allele 270bp in AY69, andallele 225bp in AY80 might be used as identifying markers for Alabio ducks. While for allele 280bp in AY50, allele 260bp in AY69, allele 145bp in AY71, allele 190bp in AY61, dan allele 130bp and 135bp in AY80 might be used as the identifying markers for Pekin ducks.

Keywords : microsatellites, diversity, ducks