Prolactin gene polymorphisms and associations with reproductive traits in Indonesian local ducks

Publons ID	36330074
Wos ID	WOS:000587769200001
Doi	10.14202/vetworld.2020.2301-2311
Title	Prolactin gene polymorphisms and associations with reproductive traits in Indonesian local ducks
First Author	
Last Author	
Authors	Purwantini, D; Santosa, RSS; Santosa, SA; Susanto, A; Candrasari, DP; Ismoyowati, I;
Publish Date	NOV 2020
Journal Name	VETERINARY WORLD
Citation	1
Abstract	a:4:{i:0;s:634:"Background and Aim: Reproductive traits play an important role in population increases and the egg production (EP) abilities of Indonesian local ducks (ILD). The prolactin (PRO gene is a single chain polypeptide hormone belonging to a family of growth hormone genes that are mainly synthesized in the anterior pituitary gland in all vertebrates. It has a significant effect on reproductive traits and EP. Single nucleotide polymorphisms (SNPs) present in PRI, arc a useful molecular marker for EP. This study aimed to identify the PRI, polymorphisms based on these SNPs and to uncover the associations with reproductive traits in ILD.";i:1;s:643:"Materials and Methods: A total of 280 ILDs consisting of legal and Magelang (F0) ducks and their reciprocal crosses, namely. Gallang (F1) and Maggal (F1), were maintained and specific variables were recorded. that is. age at first egg, body weight at first egg, first egg weight, and EP, for 90 days. Allele and genotype frequencies were used to determine the Hardy-Weinberg (H-W) equilibrium. The association between the SNP genotypes of PRL and reproductive traits was analyzed using one-way analysis of variance, following the GLM procedure of SAS. The genotypic effects on the reproductive traits were determined using regression analysis.";i:2;s:632:"Results: This study successfully amplified a polyinerase chain reaction product of 190 bp, which was used to identify the SNP. Results indicated that PRL in ILDs is polymorphic. A SNP was found at position 164 nt (c.164G >A), consisting of three different genotypes, namely, GG, GA, and AA. The genotypes of legal and Magelang (F0), and Gallang (F1) populations were not in H-W equilibrium. The Maggal population (F1) was in H-W equilibrium. Significant associations were detected between the genotypes and EP in all ILDs (p<0.01), following a regression line of y=2.337x+64.605. with a determination coefficient of 0.0188 (r=0.14).";i:3;s:101:"Conclusion: PRL can be recommended as a candidate gene for reproductive traits in ILD, especially EP.";}
Publish Type	Journal
Publish Year	2020
Page Begin	2301
Page End	2311
Issn	0972-8988
Eissn	2231-0916
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000587769200001
Author	Dr Ir AGUS SUSANTO, M.Agr.Sc