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Estimation of some population parameters and inbreeding rate of North Khorasan province flock's sheep

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Abstract

The objective of this study was estimate of population parameters and inbreeding rate of North Khorasan flocks sheep. Data used in this study was pedigree information for 8404 animals of 220 rams and 2742 ewes collected from 1990 to 2015 in Kordi Breeding Station in Shirvan city of northern Khorasan province. Population size variation during the studied years, inbreeding and kinship, generation interval, average family size and effective population size was estimated using pedigree information by using Endog (V 4.8) software. Result indicated generation interval(year), average kinship(%), average inbreeding(%) and effective population size(animal) was 3.46, 1.28, 0.62 and 180 respectively. The second part of this study was filling questionnaire of North Khorasan sheep herdsman. The result of questionnaire indicated that 0.74 percent herdmen had elementary education. The method of 0.84 percent of herdmen was rural system. The average traits of herd size(animals), age of ram(year), ratio ewe to ram, pregnancy rate, abortion, Twinning, preweaning mortality, post weaning mortality were estimated 363, 3.29, 33.3, 83.5, 4.7, 9.2, 6.9 and 9.3 respectively. The results showed that the most important criteria for selection of rams and ewes were the body size (78%) and Twinning (41%) among breeders of North Khorasan respectively.

Keyword: effective size of the population, inbreeding, pedigree structure, Kordi sheep