عنوان مقاله:

Application of multivariate analysis in quantifying size and morphological traits of local chicken in central zone of Tigray

نویسنده:

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خلاصه مقاله:

The study was conducted in three districts of central zone of Tigray, with the aim, to assess the magnitude of genetic diversity and interdependence of morphological traits in varieties of indigenous chickens, an experiment was conducted using a total of ۳۷۵ sexually matured randomly-selected female individuals' chickens. from ۳۷۵ females were used with the weighting method of standardization. A total of ۱۹ morphological measurable traits variables data was collected from selected locations in midland and highland chickens and were analyzed using Principal Component Analysis (PCA) procedure, discriminant analysis and cluster analysis. The PCA showed that five principal components' (PC) were extracted that accounted for ۵۸.۴۵% of the total variation. The first three principal components accounted for ۴۷.۲۴% of the total variation. The differentiation of the highland and midland chicken ecotypes populations was based on the weights of neck length, beak length, body length, wattle width, body weight, wattle length and height at back traits. Cluster analysis revealed that the pair wise squared Mahalanobis' distances between populations' shows smallest (۳.۰۰) and largest distances (۲۹.۰۱) between midland and highland chicken ecotypes, respectively This indicated that midland chicken share some phenotypic characters with other chicken types as a result farmers of these midland agro ecology often exchange cock/hen through different means with the fact that there existed genetic migration from one district to the next district chicken populations and gene flow is unregulated while the largest distance between highland chicken ecotypes indicates that higher heterogeneity within the breed type.The study was conducted in three districts of central zone of Tigray, with the aim, to assess the magnitude of genetic diversity and interdependence of morphological traits in varieties of indigenous chickens, an experiment was conducted using a total of ۳۷۵ sexually matured randomly-selected female individuals' chickens. from ۳۷۵ females were used with the weighting method of standardization. A total of ۱۹ morphological measurable traits variables data was collected from selected locations in midland and highland chickens and were analyzed using Principal Component Analysis (PCA) procedure, discriminant analysis and cluster analysis. The PCA showed that five principal components' (PC) were extracted that accounted for ۵۸.۴۵% of the total variation. The first three principal components accounted for ۴۷.۲۴% of the total variation. The differentiation of the highland and midla ...

کلمات کلیدی:

Cluster, Discriminant, Principal component analysis, Quantitative traits

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