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Gene Expression Profile Analysis of Residual Feed Intake(RFI) for Isfahan Native Data Chickens Using RNA-Seq

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Abstract
Despite the development of new information technologies, there is no proper platform for the registering, monitoring and managing the information of Iranian animal and poultry genetic resources. One of the most efficient and least cost solutions to overcome this challenge is the use of web-based geographic information system (Web-GIS). In this project, for the first time in the country, a system was designed and implemented through which the information of the populations of cattle collected in the national project for the monitoring and registration of the indigenous cattle populations in Iran will be registered. This system was implemented with the aim of recording and monitoring the information of the indigenous cattle breeds. In order to implement the Web-GIS, software combination and programming languages were used. The architecture of the system consists of a database management system, geo-server, base map and graphical user interface. By programming the system and its integration into the network, the Web-GIS of domestic cattle breeds was implemented. This system will help researchers to register the information obtained from the registration and monitoring projects of the indigenous breeds, other related projects and research stations in the system in a location-based manner. Since the location-based information in this system is recorded, users can display the system information based on geographic location and use it in decision-making processes. This system is capable of updating and reporting at any time. In order to manage and perform further analysis on domestic cattle genetic resources information, it is necessary to transfer the information recorded in the system to ArcGIS software installed on the computer. Some of the operations that can be done through this software include spatial and attribute information management of domestic cattle genetic resources, monitoring of population and individual information, providing targeted graphs based on the information recorded in the system, displaying the location of cattle genetic resources on the map, making spatial queries and use of modeling tool. The modeling tool helps users create targeted models for management and analytical purposes.
Key words: domestic cattle, registration and monitoring, system, Web-GIS, genetic resources.