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(54) Title: BIOINFORMATICS BASED SYSTEM FOR ASSESSING A CONDITION OF A PERFORMANCE ANIMAL BY ANALYSING NUCLEIC ACID EXPRESSION

(57) Abstract: A condition and ability of an animal to perform to its best ability may be determined by correlating gene expression with clinical and other data. The invention provides methods for assessing a performance animal's condition including the steps of collecting biological samples and clinical history, generating digital results on relative or absolute gene expression levels in the samples, transmitting the digital results via a communications network to a remote diagnostic server and associated database, comparing the results with information stored in the remote database and returning a report of the condition of the animal. A diagnostic system comprising a microarray, a microarray reader, a remote database for storing information from the reader, and a remote server receiving digital signals from the reader is also disclosed.