

Muturi, P.W., Mwololo, J.K., Munyiri, S.W., Rubaihayo P., Munyua, J.K., Mgonja M., Manyasa E. and Kiarie N, 2010. A perspective on proteomics: Current applications, challenges and potential uses. *Agriculture and biology journal of North America*, Vol. 1, Issue 5: 916-918

ABSTRACT

Biological sciences are experiencing an ongoing information revolution. Proteome-wide functional classification using bioinformatics approaches is becoming an important method for revealing unknown protein functions. Most successful computational approaches for protein function prediction integrate multiple genomics and proteomics data sources to make inferences about the function of unknown proteins. Research into gene expression and proteomics enable scientists to decipher the functions of genes and their protein products, and to get a clearer picture of the complex regulatory networks that control fundamental biological processes. The global study of cellular proteins by proteomics may be able to provide the complete picture. Use of proteins to study gene function and genetic information is possibly the most reliable method but costly and labour intensive. Analysis of gene-expression patterns is no less powerful concept than proteomics when it comes to identification of the characteristics of signalling pathways or disease states. This review discusses current applications of proteomics, challenges and potential uses.