References:

Geoghegan, J. L., Di Giallonardo, F., Cousins, K., Shi, M., Williamson, J. E., & Holmes, E. C. (2018). Hidden diversity and evolution of viruses in market fish. *Virus evolution*, **4***:* 31.

FAO, 2020. *How is COVID-19 affecting the fisheries and aquaculture food systems*?. Food and Agriculture Organisation (FAO)

Poudel, P.B., Poudel, M.R., Gautam, A., Phuyal, S., Tiwari, C.K., Bashyal, N. and Bashyal, S.2020. COVID-19 and its Global Impact on Food and Agriculture.*Journal of Biology and Today's World,* **9**: 221.

Siche, R. 2020. What is the impact of COVID-19 disease on agriculture?. *Scientia Agropecuaria*, **11**: 3-6.

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CHAPTER-19

PHARMACOGENOMICS: INTRODUCTION AND APPLICATIONS

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Introduction:

Advances in health care have led to a significant improvement in survival in the past three decades. Drug therapy is often the most challenging aspect of care. Optimal drug treatment requires selection of the best possible agents with close monitoring pharmacokinetics, pharmacodynamics, adverse drug reactions, and the cost of different agents. During the 1980s, a drug used to treat angina, perhexiline, which caused neural and hepatotoxicity in a subset of patients. Later scientists found that the toxicity occurred in individuals with a rare polymorphism in CYP2D6, an enzyme take part in the drug metabolism. Genetics plays an important role in the influences in optimization in drug dose for an individual. In general, pharmacogenomics can be defined as the sum of the study and application of genetic factors (often in a high-throughput, genomic fashion) relating to the body's reaction to drugs, or pharmacology,