

Uncharted frontier: Vaccine Biotechnology, the equalizer in the fight against emerging agricultural and public health challenges in the Philippines

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Abstract

COVID-19 and African Swine Fever (ASF) are two of the most important, ongoing public health and agricultural challenges in the Philippines that pose a tremendous impact on health and food security. The impacts of these two health emergencies are further exacerbated by the lack of a national-scale vaccine development program which delimited the country's response to efforts on current non-vaccine strategies. The relatively slow pace by which imported COVID-19 vaccines are rolled out and the absence of available vaccines for ASF, among other reasons, has resulted in a continuous rise of the total cases of both COVID-19 and ASF. The exigency of the situation necessitates a vaccine development program that will work alongside other risk mitigation strategies to address these current problems and leverage the Philippines against future public and agricultural health emergencies such as COVID-19 and ASF. This paper scopes the various initiatives of the government, research, civic society, and industrial sectors over the course of these two current health emergencies and discusses the ways forward toward the institutionalization and operationalization of a national vaccine biotechnology program in the Philippines.



Biography

Flores is the associate dean of the Graduate School of the University of the Philippines Los Baños where he also serves as an assistant professor of microbial ecology and biotechnology at the Institute of Biological Sciences. He is also an affiliate faculty at the Faculty of Education of the University of the Philippines Open University and a visiting researcher at the International Center for Biotechnology in Osaka University where he finished his Master in Engineering (Advanced Science and Biotechnology) and Doctor of Philosophy in Engineering (Biotechnology) degrees. He is one of the staunchest advocates of Planetary Health in the Philippines.

Publications

1. Immunogenicity and Protective Activity of Pigeon Circovirus Recombinant Capsid Protein Virus-Like Particles (PiCV rCap-VLPs) in Pigeons (*Columba livia*) Experimentally Infected with PiCV
2. The neutral N-linked glycans of the Basidiomycetous yeasts *Pseudozyma antarctica* and *Malassezia furfur* (Subphylum Ustilaginomycotina)
3. The Neutral N-linked Glycans of the Ustilaginomycete Yeast *Syntherisma paphiopedili*
4. The Prevalence of *Escherichia coli* O157:H7 and Other Verotoxin-Producing *E. coli* in Raw, Ground Beef Samples from Wet Markets in Laguna, Philippines
5. Effect of Population Density on Larval Dispersion and Pit Construction of the Antlion, *Myrmeleon angustipennis* Banks (Neuroptera: Myrmeleontidae)

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