

## CPRC Update – Dr. Elijah Kiarie, University of Guelph.

### Making of a Monogastric Nutritionist

Dr. Elijah Kiarie's interest in farm animals originated from growing up on a small family farm in Kenya. He described obtaining a Bachelor's degree in Agriculture, majoring in Animal Science, as the catalyst for fueling his interest in animal nutrition. Motivated to gain the necessary skills to improve feed quality and utilization of by-products, he pursued a Master's degree in Animal Science (nutrition). He remained compelled to advance his understanding of nutrition and moved to Canada to pursue a PhD. in Monogastric Nutrition at the University of Manitoba, where he was awarded a Doctor of Philosophy degree in 2008.

Having completed a Post- Doctoral Fellowship, Dr. Kiarie spent several years working as a Research Scientist in the Swine and Poultry Nutrition Industry and has made notable contributions in advancing the understanding of the application of exogenous feed enzymes to improve nutrient utilization and modulate gut health, while reducing feed costs and environmental impact. This research resulted in patent applications and invention disclosures related to the development of feed technologies for improving health and productivity of farm animals in addition to many significant scientific publications contributing to this area of research.

Dr. Kiarie joined the University of Guelph as an Assistant Professor in 2016 and was appointed as the Mcintosh Family Professor in Poultry Nutrition. He is concentrating on two areas of research at this point in his career; (i) the gastrointestinal tract as a potential rate-limiting factor in survival and productivity of poultry and (ii) ways to manipulate perinatal nutrition for stronger skeletal growth to improve productivity, skeletal integrity and welfare.

### A Rising Star

Dr. Kiarie's ongoing research project entitled 'INVESTIGATING OPTIMAL FEED STRUCTURE FOR PROMOTING PULLET GUT AND SKELETAL DEVELOPMENT FOR ENHANCED LAYERS PRODUCTIVITY' is in part supported by CPRC. This project aims to investigate use of dietary insoluble fiber to alter diet structure in developing pullets with the objective of promoting gut and skeletal health and productivity in laying hens. The ongoing experiments will determine the effects of the addition of fiber on; (1) gut health and performance, and (2) skeletal development and performance in the pullet stage through to the end of the laying cycle. A recent finding of this research shows that enhancing the digestive capacity through feed additives and processing plays an integral role in improved utilization of nutrients. Additionally, distinct feed additives and functional factors can complement each other through different modes of action on the gut. Dr. Kiarie will continue research to elucidate whether this is an additive, antagonistic or synergistic relationship.

CPRC, its Board of Directors and member organizations would like to acknowledge Dr. Elijah Kiarie as a 'Rising Star'. His research responds directly to the needs of the scientific and poultry industry and addresses industry and CPRC research priorities. We anticipate that the outcomes of this research will benefit the poultry industry.

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*“Nutrition is complex and should not be understood as a calculation of nutrients. Instead, nutrition must be recognized as a synthesis of all elements provided by the feeds; nutrients, anti-nutrients and implications on gut health and function”*

*Dr. Elijah Kiarie*

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CPRC, its Board of Directors and member organizations are committed to supporting and enhancing Canada’s poultry sector through research and related activities. For more details on these or any other CPRC activities, please contact The Canadian Poultry Research Council, 350 Sparks Street, Suite 1007, Ottawa, Ontario, K1R 7S8, phone: [\(613\) 566-5916](tel:6135665916), fax: [\(613\) 241-5999](tel:6132415999), email: [info@cp-rc.ca](mailto:info@cp-rc.ca), or visit us at [www.cp-rc.ca](http://www.cp-rc.ca).

*The membership of the CPRC consists of Chicken Farmers of Canada, Canadian Hatching Egg Producers, Turkey Farmers of Canada, Egg Farmers of Canada and the Canadian Poultry and Egg Processors’ Council. CPRC’s mission is to address its members’ needs through dynamic leadership in the creation and implementation of programs for poultry research in Canada, which may also include societal concerns.*