

## **Zulkifli Idrus' professional experience with poultry welfare**

- +30-year career investigating heat stress in commercial chickens stemming from his qualification as a veterinarian and then with doctoral research at the Virginia Polytechnic Institute and State University (Virginia Tech, USA).
- Initial research centered on restricted feed strategies to reduce growth rate (fat deposition) to mitigate heat stress in modern commercial meat chickens.
- Returned to Malaysia to lead an extended research project into dietary manipulation of commercial chicken feed to assist the animals cope with rapid growth rates in hot and humid housing conditions.
- Was one of the first researchers to confirm links between animal welfare and the main physiological pathways utilized in response to heat stress, particularly with the roles of heat shock proteins (HSP) and acute-phase proteins (APP).
- Leadership role in Malaysia's pre-eminent position on national animal welfare standards and regulations, as compared with other Asian countries.
- Recent poultry welfare research and roles with the World Organization for Animal Health (WOAH), extending into other aspects of housing conditions and humane slaughter methods.
- His research helped implement stunning to render animals unconscious before slaughter of chickens in Malaysia - a primarily Muslim nation where traditional Halal slaughter had been performed on conscious animals.