

TEACHING ANIMAL HYGIENE IN THE UNIVERSITY OF IBADAN, NIGERIA

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Abstract

Animal hygiene is taught under the title veterinary public health and preventive medicine in the University of Ibadan, Ibadan, Nigeria. The term animal hygiene is not commonly used here, but the definition of animal hygiene cogently interprets the composition and integration of the ten subject areas taught under veterinary public health and preventive medicine in Ibadan. There are three units within the department, namely; veterinary public health, veterinary preventive medicine, and wildlife and fish ecology and diseases. The essential pursuit of each of these three units is animal hygiene in the order of the subdivisions into veterinary preventive medicine, food safety and environmental protection basics of the animal and human health.

I. INTRODUCTION

1.1 Definition of animal hygiene

Animal hygiene is the part of veterinary medicine that deals with the quality of the environment where animals are due to live (adapt and maintain this environment) in an adequate state so that animal health is safeguarded. Thus, animal hygiene is defined as animal health care practice that includes each form of interaction between abiotic and biotic factors of environment and the domestic animal in its strategies to prevent diseases, to promote animal health, and to ensure that species-specific as well as age specific welfare needs of such animals are met - especially food animals (Tielen, 2000).

1.2 Elaboration on the status of animal hygiene in Ibadan

The Department of Veterinary Public Health and Preventive Medicine in the University of Ibadan was established in 1975 to teach animal hygiene subjects. Animal hygiene subjects include in their course contents attainment of farm structures and environmental conditions that prevent outbreaks of diseases, and maintain the well being of both animal and man in a farm environment (Esuruoso, 1998). The subject teaches procedures for avoidance of environmental pollution and the control of any abiotic or biotic risk factor that may disrupt the health of animals and man.

Some of the means for the prevention of diseases to animals and man that are taught in animal hygiene are cleanliness of the environment, disinfection of facilities, adequate space provision, vaccination, chemoprophylaxis, screening of vectors, and supply of nutritionally balanced feeds in suitable quantity to animals. These activities, when maintained in a systematic way of delivery, make a package in the form of Integrated Quality Assurance and Control System (IQACS) (Tielen, 2000), Total Quality Control (TQC) (Olugasa *et al*, 2000) and Hazards Analysis and Critical

Control Point (HACCP). These are capable of becoming viable Decision Support Systems (DSS) for farmers and veterinarian (Bhatt and Zaveri, 2002).

The various stages in the teaching of animal hygiene subjects in Ibadan are practically demonstrated in concurrent practical exercises on a Teaching and Research Farm (TRF) in the University of Ibadan, where students participate actively. Animal hygiene has an aim of leading to socio-economic and financial profit making to satisfy its practitioners and keep them in business.

1.3 Justification for teaching animal hygiene in Ibadan

The founding teacher and Head of the Department of Veterinary Public Health and Preventive Medicine in the University of Ibadan, Gabriel O. Esuruoso (Professor), summarized the justification for teaching the ten subjects of animal hygiene as the need to teach animal health (maintenance) in the context of husbandry practices. Animal scientists and veterinarians in Nigeria have often wondered where a dividing line lies between the two disciplines. There may not be a dividing line, but a merging point, and that is animal hygiene. Therefore, emphasis is placed on the relationship between an animal and its living environment on the farm as a subject for comprehending sustainable animal production and for understanding the economic operations of a livestock industry.

The livestock industry in turn is needed in part for human food, nutrition and health. In Ibadan, presentation of nutritional diseases of man in animal hygiene leads on to the conceptualization of the biological food demand of humans and what the quality of meat, milk, egg, yogurt, cheese and fish offer to ensure human health. In this context, how to ensure that the environment in which these food items are produced (from farm to table) does not allow pathogens and other contaminants (intrinsic or extrinsic) that can affect human health to get in contact with the food process is taught. A special area of teaching on human health is the zoonoses and environmental hygiene. This is a critical dimension into food safety and human health in the same environment and other forms of interaction between animal and man. In all of these interactions and associations, a decision support system is a necessary tool for learning and practice of animal hygiene.

1.4 Objectives for teaching animal hygiene in Ibadan

There are three main objectives for teaching animal hygiene in Ibadan. These are:

- (1) To present the principles and scientific basis for preventive veterinary medicine in enabling operations of an economically sustainable animal production;
- (2) To ensure understanding of human food and nutritional deficiencies induced diseases, food quality of animal tissues, pathogens transmission through animal tissue to human foods and zoonoses communication in the common environment between man and animals;
- (3) To ensure understanding of wildlife and fish ecology and diseases for ecosystem preservation and environmental hygiene in the context of wildlife and fish health.

1.5 Summary

Although animal hygiene is not a commonly used term in Ibadan, Nigeria, in actual sense it is what we refer to as veterinary public health and preventive medicine. The definition of animal hygiene explains in clear terms, the composition and integration of subjects presented in veterinary

public health and preventive medicine courses in Ibadan. Thus, one may conclude that veterinary public health and preventive medicine is the study and practice of animal hygiene. This is capable of enriching the comprehension of the subject.

2. MATERIALS AND METHOD

The method used in preparing this report was simply the collection of various write-ups, lecture notes and annual reports of activities of the department of veterinary public health and preventive medicine in Ibadan, since its establishment and giving these a direction in the context of the definition of animal hygiene. Inferences were then drawn on areas of weaknesses and strength in the teaching program on veterinary public health and preventive medicine at the University of Ibadan, Nigeria. The principles and concepts of animal hygiene contained in the department are then indicated.

3. RESULTS

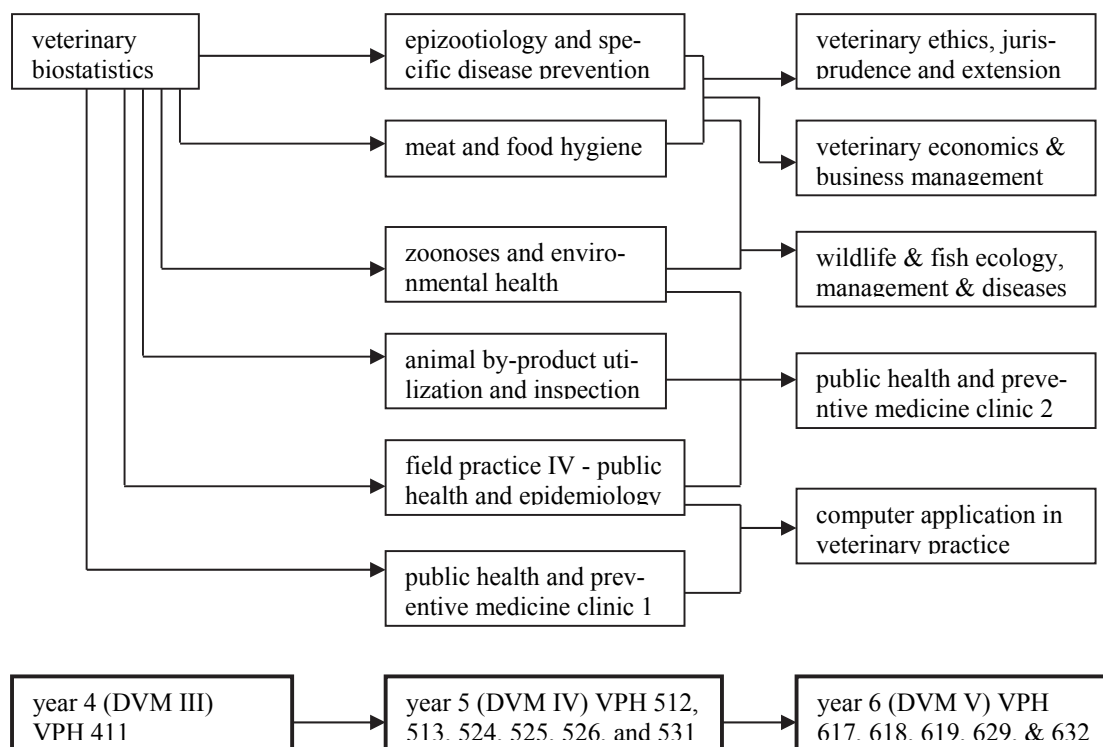
Animal hygiene is taught formerly in years 4, 5 and 6 of a six-year course of the Doctor of Veterinary Medicine (DVM) degree program in Ibadan. The animal hygiene courses taught at Ibadan are: (i) veterinary biostatistics; (ii) epizootiology and specific diseases prevention techniques; (iii) meat and food hygiene; (iv) zoonoses and environmental health; (v) animal by-product utilization and inspection; (vi) veterinary ethics, jurisprudence and extension; (vii) veterinary economics and business management; (viii) wildlife and fish ecology, management and diseases; (ix) computer application in veterinary practice; and (x) public health and preventive medicine clinics I and II. Figure 1 below shows the internal relationship of these courses.

Animal hygiene is founded on biostatistics because it deals with population of animals and test of associations with other biotic and abiotic factors in the external environment. In theory, the biostatistics information passed to students should be based on on-going studies or recently concluded studies on the TRF. The statistical information should include defining normalcy in clinical parameters such as body temperature, packed cell volume, red blood count in a population of animals e.g of pigs on the farm. Using measures of central tendency and measures of dispersion the procedure for arriving at clinically normal body temperature values and other values are presented. Deliberate effort is made to inform the students that veterinary biostatistics is to be presented in the context of collection, organization, presentation and analysis of data for test of associations between the animal and other biotic and abiotic factors in the external environment that leads to one problem or avoids of a problem in view of their health and welfare (Olugasa, 2001). With this level of preparation of the students' minds, the other courses on animal hygiene would have a better foundation.

In year five of the DVM program, epizootiology, meat and food hygiene, zoonoses and environmental health, animal by-products utilization and inspection, and public health and preventive medicine clinic I are the major animal hygiene courses taught. In epizootiology, the key information is attainment of farm structures, environmental conditions, and veterinary services that prevent outbreaks of diseases, and maintain the well being of both animal and man in a farm environment and in the abattoir. In particular, insights into occupational hazards especially children working in abattoirs as apprentice to butchers in Nigeria are provided as case studies of the incidence and prevalence of zoonoses in man. Strategies for measuring compliance of abattoirs to IQACS in their beef, mutton, pork, and chicken quality control, and wastewater treatment are presented as case studies (Olugasa *et al.*, 2000). Investigation of at least one disaster affecting

livestock remains a special feature in the teaching of public health and preventive medicine clinic 1. African swine fever (ASF) 2001/2002 outbreaks in south western Nigeria recently became a major focus. Alternative case studies to ASF in this regard are Rinderpest in cattle, and Pest des Petit Ruminant (PPR) in sheep and goats.

Figure 1. Internal relationship of animal hygiene courses in the University of Ibadan, Nigeria



Paramount in the teaching of animal hygiene to the 6th year students of the DVM program is the need for decision support systems (DSS) in order to enable organizational learning. This is shown in the fact that veterinary ethics, jurisprudence and extension, veterinary economics and business management, wildlife and fish ecology, management and disease, as well as public health and preventive medicine clinic 2 are largely decision-making based courses. They are dependent on pre-collected data that are organized, and presented for analysis in view of specific decisions in support of sustainable livestock economics and business management in the context of both private and public service. In a simple sense, a DSS is a computer software that facilitates and accepts inputs of a large number of facts and methods to convert them into meaningful comparisons, graphs, and trends that can facilitate and enhance a decision maker's decision-making ability (Bhatt and Zaveri, 2002).

At the moment, only 28 hours is devoted to animal hygiene in year 4 of DVM, 210 hours is devoted to animal hygiene in year 5 by the department, while another 210 hours is devoted to teaching animal hygiene to year 6 DVM students by the department of veterinary public health and preventive medicine in Ibadan.

4. DISCUSSION AND CONCLUSION

Teaching and learning about animal hygiene has been found to be a process of detecting and correcting the presence or absence of abiotic and biotic factors that may be potential problems in the environment to farm animals, so that animal health can be ensured. Working in the farm allows both teachers and students to process new skills, knowledge and routines about animal products, processes and social relations with animals and its living environment on the farm. At the moment, students in our department of veterinary public health and preventive medicine do admit that the concept of veterinary public health and preventive medicine is made much clearer and comprehensive with the concept of animal hygiene as here explained. Thus, we simply conclude that veterinary public health and preventive medicine is the study and practice of animal hygiene. At the same time, when a teacher did not give this background concept of animal hygiene in his or her teaching of veterinary public health and preventive medicine, there was a deficit in the extent of practical comprehension that was achieved by the students.

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