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ANIMAL EPIDEMIOLOGY AND ECONOMY (A.E.E.M.A. meeting of April 24th, 1986, Alfort)

Economy and animal health

Delaveau (A)

Farming business is an economic activity, the results of which can be appreciate through technical criteria. Today, in intensive farming, more and more, pathology is seen through its incidence on zoo-technical results, that is, on the economical results of the production unit or of the herd. Financial losses related to health problems can then be very important.

Animal health cost

Delaveau (A)

The analysis of technical management results shows that sanitary charges are around 300 FF for every dairy cow, but also that situations may be very different, one from the other. However, these costs are low, not exceeding 6% of the total charges of a dairy farm. In rabbit production, health expenses are less than 4% of the food charges. The macroeconomic approach shows that veterinary expenses (fees and drugs) represent about 5% of the in-between consummations, but that the increase of these health expenses has been important these past years. More work is needed for a better understanding of the diversity of the situation found on the field, and also for the analysis of the cost of hygienic decisions (disinfection for example) compared to the cost of regular or occasional actions.

Economic consequences of animal diseases. The example of bovine mastitis

Jactel (B)

Animal diseases are production charges within the farm, but it is often uneasy to measure them. The study of a model, bovine mastitis, gives the opportunity of a logical analysis of the charges linked to this disease in a farm. 80% of them are losses in milk production from subclinical infected animals. The model also allows our estimation of the cost-benefit ratio of a control program against mastitis applied within the herd. After one year this ratio is of 1.16 and three years later it reaches 20.5. This paper also shows how easily results will change when basic' hypotheses are modified. After a critical analysis of the measure methods, four simulations including production decreases, treatments costs, reference situation and final production of the animals are realized. The study of animal diseases with the help of a model gives access to the measure of their economic importance within the farm and to the sensibility of the results obtained.

Epidemiology and economy in Great-Britain: the importance of animal production models in economic analysis of monitoring of animal diseases

Shaw (A.P.M.)

The analysis of profitability of programs for eradication of swine fever and brucellosis in Great-Britain, as well as the estimation of the measures against animal diseases in Africa, call for a

methodology for studying these situations. At the farmer level, the economic interest of a sanitary visit may be analysed through simple ways. At a regional or national level, the analysis of an eradication program against any disease may be much harder. Some of the parameters are difficult to find. So, the first step is to look for acute data. As at the end, decisions must be taken, models are of interest. Two kinds of models have recently been developed in Reading: Static models are working on a stable number of heads herd; Dynamic models are working on changing number of heads herd, during time. In different cases, the static model seems short. For example, an examination of production variation linked to productivity evolution needs a dynamic model, especially in nowadays European Economic Community limitations of production.

PAPERS OF EPIDEMIOLOGY

Comparison of prevalence of anti-leptospirosis antibodies in a group of aborted cows and a group of randomised cows of *Loire-Atlantique*

André-Fontaine (G), Ganière (J-P), Boukerrou (A) & Quiniou (M-A)

On July 1984, in *Loire-Atlantique* (France), leptospirosis serological survey was performed on two bovine groups: aborted and randomised cows. Serological prevalence is significantly higher in the first group (P<10-4). However, these animals show lower titres than randomised one (P<10-2). Grippotyphosa, Sejroë, Hebdomadis, Mini, are the serogroups most frequently found. Results are discussed.

Survey on lameness of bulls: lesions, associated management factors, consequences

Fostier (B), Rousseau (J-F), Pelletier (J-L), Drogeat (C), Lopez (C), Cabon (G), Adoux (C), Bois (M), Henry (J-M), Le Maignan (G), Le Meur (Y), Mériau (G) & Joulie (A)

This survey allows to obtain a description and classification in order of frequency of the lesions at the origin of lameness in bulls fattening from sulked calves. The foot lesions are the origin of 79% of lameness occurrence. The white line disease, the principal lesion in frequency, is responsible for 43% of lameness occurrence. The laminitis is linked with 41% of lameness occurrence but it is essentially (34% of lameness occurrence) subclinical laminitis. This kind of laminitis is not painful, so no lameness is observed. But it predisposes to the white line disease. The lameness due to laminitis or white line disease is linked with management factors which express a mainly traumatic aetiology of these lesions. The survey results do not allow to conclude about the potential involvement of some alimentary practice in subclinical laminitis occurrence. But it appears clearly that some alimentary aspects, particularly the energetic intake level and the blade size of corn silage, are not direct cause of lameness. The heel born erosion, linked or not with stinky foot, is at the origin of 6.9% of lameness occurrence. It results from heel abrasion due to some elements of the soil. The other major lesions at the origin of lameness could not linked with particular management factors. The traumatisms and the arthritis, which often lead to urgency slaughter, would need other studies to make a complete description and specify conditions of appearance The economic losses due to lameness appears moderate. The fattening units are principally affected with urgency slaughter (4% of lameness occurrence) and with the lameness which staying chronic (23% of lameness occurrence) involves an average daily gain reduction of 148 g.