1995, issue 28 - Abstracts

ASSESSMENT IN EPIDEMIOLOGY AEEMA Meeting, June 1st 1995

Introduction to evaluation in the field of health

Charpak (Y)

This paper presents the general frame for the evaluation of action plans health, their historic as well as the opposition between scientific evaluation and legal evaluation.

Evaluation of prevention against CAEV contamination in young goats

Calavas (D), Péretz (G), Bugnard (F) & Sulpice (P)

A prevention programme for caprine viral arthritis-encephalitis was monitored in 363 goat herds in central and south-eastern France between 1988 and 1990. For the 3 years of the programme, the level of contamination in the female kids before the first parturition is significantly lower for the kids that had been given substitute colostrum (cow colostrum or goat colostrum heated to 56°C for 1h) compared with the kids that had been given raw colostrum. The efficacy of the prevention measures was studied, using a multiple logistic regression with random effect. The model confirms the major role of the substitute colostrum in the prevention of the contamination of the female kids. The lack of association between the other preventive measures and the contamination of the female kids is discussed.

Evaluation in Top-Lait actions

Madeline (Y)

Top-Lait regional actions are intended to convince farmers to use preventive or curative new breeding practices in order to increase milk quality, using mass media tools and every partners of this production. An ante-evaluation leads to objectives, expected results and the means to put in the action. A post-evaluation, at the end or during the action, after one or two action campaigns, gives a measures of the effects, shows the limits and proposes to improve the remaining of the action. The evaluation of the results is made as an increase in milk quality criteria, by the comparison of their values between the beginning and the moment of the comparison. The appreciation of the bonus linked to Top-Lait, between all other evolutionary factors, is made by the measures of the difference between results in sub-populations, concerned or not by the action. The action plan to obtain results is also evaluated. In this case, technical studies are realized, to have better information on farming practices that are to be recommended, and to measure their realization by farmers. Motivation and look studies are able to understand the motivations of the farmers to these practices, and to analyse the way they receive the information media used in the Top-Lait campaigns.

Economic analysis of disease control at the herd level

Shaw (APM)

This paper outlines the various methods used for analysing the economics of disease control at the herd level. A partial budget provides the starting point, using mastitis control in the United Kingdom as an example, extending the analysis to several years and including the concept of discounting. The areas which pose particular problems in evaluating the impact of disease are discussed, focussing on the production parameters affected by the disease and the production systems involved. The difficulty of collecting data on the effects of disease on production and of establishing "with "and "without" disease control scenarios for evaluating project impact is highlighted. In this context, the role of herd

models is discussed and the different types of herd models, static and dynamic, deterministic and stochastic are described. Finally, for the example of trypanosomiasis in Ivory Coast, a simple stochastic model is presented, simulating the variability of outcomes for individual livestock producers.

Economic evaluation and decision making in animal health
Msellati (L)
Epidemiology aims at providing the indispensable data to design and implement animal disease control programs. In Developing Countries, where major epizootic diseases are still present, animal health remains the major constraints to livestock development. Moreover, increasing budgetary constraints are turning economic analysis into an indispensable support to decision-making in order to implement efficient programs to control animal diseases and, thus, develop the livestock industry. After analysing the major constraints to livestock development and defining the costs of animal diseases, the author describes the principal economic evaluation methods which are used by decision-makers and planners. The author then underlines the lack of reliable information as a binding constraint and describes the principles of a decision-making model which can be used when operating under uncertainty.

Global evaluation of control programme of PRRS in animal health
Blanquefort (P)
A voluntary control programme of PRRS (Porcine Reproductive and Respiratory Syndrome) was decided in Pays de la Loire region, within the pig industry partners in 1993. It deals with 4 *départements (Loire-Atlantique, Maine-et-Loire, Sarthe, Vendée)*, *i.e*. 2 200 farms and 100 000 sows. The objective defined at the very beginning is to stop the disease. Under the organisation of farmer's sanitary associations, this control programme, dealing with a non-registered disease, is driven in partnership with all the actors, the producers especially. This paper presents the action's global evaluation (methods, technical results, consequence, economical aspects) positioning the main indicator, residual prevalence, and showing technical improvements realised during the programme.

NETWORKS OF EPIDEMIOLOGICAL SURVEILLANCE

Epidemiosurveillance national network in poultry farming
Drouin (P), Toux (JY), Guittet (M) & Bennejean (G)
The epidemiosurveillance national network in poultry farming (RENESA) is a descriptive oriented network, the objectives of which are to find out the trimester prevalence of mycoplasma and salmonella infection of flocks and hatcheries registered to the official hygiene and sanitary controls (COHS) and also to quantify the evolution of this rates during the past four trimesters. Started on an experimental level in 1991, RENESA, since last 1994 trimester, has been covering the 23 French departments where poultry farming is the most developed. The weak points of RENESA are linked to bias. One of the strength of the network is the knowledge of epidemiological evolutions. RENESA is able to find out the emergence to salmonella serovars linked to animal or human health problems. RENESA was really needed. In a short time, this network will become indispensable with the application of 92/117/CEE directive of the European Union.

Phytoplankton surveillance network
Belin (C)
The Phytoplankton Surveillance Network, REPHY, created in 1984 by IFREMER, is devoted to collect information on phytoplankton populations and to protect human health by a surveillance of toxic phytoplankton species and of phyto-toxins present in seashells destined to human consumption. REPHY is made of a sampling spots network, situated all along French seashore. Water and/or seashells

sampling are realised with different frequencies. Samples and analysis are performed by teams coming from 12 by-the-sea laboratories. Phytoplankton counting and physicochemical measures are performed on water samples. Toxicity tests are performed on seashells samples. The results are put into a national data bank.

EPIDEMIOLOGICAL SITUATION OF ANIMAL DISEASES IN 1994

Rabies in France and in Europe in 1994
Aubert (M) & Barrat (J)
The epidemiological situation of rabies in France and in Europe during 1994 is presented from tables, maps and graphs. Some new scientific and technical information's, in the field epidemiology or control of rabies, are documented.

Aujeszky's disease in France in 1994
Toma (B), Mieli (L), Rose (R), Bataillon (G), Guillotin (J), Michel (B) & Caquineau (L)
This paper presents the epidemiological situation for Aujeszky's disease in France during 1994, using tables and figures. The tracers used show that situation in 1994 is a little better than previously.

PAPERS OF EPIDEMIOLOGY

How to assess pre-weaning mortality in piglets? Audit used in *Nord* and *Picardie*
Richard (S), Djiga (H), Grenier (E) & Quemere (F)
Our previous studies identified some factors of variation in pre-weaning mortality in piglets in the context of Nord-Picardie region. As a culmination of this work, we present a tool to help advisors diagnose problems related to the topic. It consists of a kind of questionnaire, easy and quick to apply on the farm. With the responses, it is possible to establish a score for each part of the hexagonal ecosystem representing the piggery. A survey on 62 farms shows two opposite types of farms, related to best or worst mortality rates. They are describes by several factors such as housing and herd management, supervision farrowing by the farmer for example. An investigation involving breeders shows that they are interested in using this method. The audit formula can be a useful support for advisors, giving a global evaluation of the farm.

Animal cysticercosis in France. National survey in slaughterhouses in 1989
Soulé (C), Fabien (JF) & Maillot (E)
In 1989, a survey was performed for cysticercosis in slaughterhouses, in cattle, sheep, goats and pigs. The survey unit was the department from where the slaughtered animals were coming. Three criteria were used to classify all departments in three groups with decreasing infection levels. In a first group of 8 departments from the South of France, a total of 7284 cases of cysticercosis had been notified, 87% of which in sheep or goats. The second group with 18 departments, less infected, where cattle farming in more important, has a total of 3200 cases, mainly in the West and North, with 54% in sheep and 38% in cattle. A third group, with 10 departments, mainly in the South, gave a total of 1132 cases, 53% of which sheep and goats and 41% in cattle. The 52 departments left were very little infected. In all, the national prevalence rate was 1.3 per thousand in cattle, 4.2 per thousand in sheep and goats and 7.2 per thousand for adults only (i.e. without lambs) and 0,09 per thousand in pigs. The main areas for cysticercosis are in *Pyrénées-Atlantiques* and South-East of France were they are still important in sheep. Other but less important outbreaks occurs in cattle, over the whole country, mainly in the North-West. In pigs, small outbreaks have been found in the centre of France.

Geographical analysis of the screening results of pseudo rabies in Brittany

Auvigne (V) & Hery (D)

From the data of serological screening for Aujeszky's disease in Brittany, the relationships between infection rates and production structure are analysed. The infection rates increase following pig density but with different levels following every department. The non-equilibrium between farming and fattening, an index of piglet movements, is strongly linked to infection rates.