

Monitoring the effect of the Dutch Scrapie Control Program

Nodelijk^{1*}, G., Van Roermund¹, H.J.W., Van Keulen², L.J.M., Vellema³, P. & De Jong¹, M.C.M.

¹ Quantitative Veterinary Epidemiology, Animal Sciences Group, Wageningen University and Research Centre, P.O. Box 65, 8200 AB, Lelystad, The Netherlands.

² Centre for Infectious Disease Control (CIDC), Lelystad, The Netherlands.

³ Animal Health Service, Deventer, The Netherlands.

In 1998 the Dutch Scrapie Control Program started, which is based on selection of genetically resistant sheep. The growing concern about TSE resulted in 2002 in the acceleration of the program. The current control program aims at breeding a sufficiently large number of scrapie resistant breeding rams (ARR/ARR) to be able to make tupping with resistant rams compulsory on all sheep farms in the country by 2004. Aim is a rapid decrease of susceptibility for scrapie and BSE and, ultimately, the elimination of scrapie in the Netherlands. Parallel with the ongoing control program is a monitoring project, which started in 2000.

The aim of this project is to closely monitor the effect of genetic selection for resistance in the field by determining whether transmission of scrapie from animal to animal is reduced sufficiently, and to check if new scrapie strains develop. For this purpose 6 farms have been selected on the basis of the following criteria: confirmed history of scrapie, individual I&R, flock size of 50-150 ewes, restricted trade of animals > 6 month of age, farmer's motivation to participate and farm's viability. Scrapie is monitored by taking tonsil biopsies annually of all animals over one year of age, which are examined for PrP^{Sc} by immunostaining. Of each animal over 6 months of age, a blood sample is taken to determine the PrP genotype of the animal. All removed (culled or sold) animals are taken over by the project to examine brain- and tonsil tissue for PrP^{Sc}.

As scrapie has a long incubation period, the monitoring project has to run for a minimum of four years. Preliminary results of the 6 flocks will be shown.