

news

FOOT-AND-MOUTH DISEASE VACCINE WITH ANTIGENS PRODUCED IN CELL CULTURES GROWN WITH PEG-TREATED BOVINE SERUM

Abaracon and Giacometti¹ reported the successful experimental use of a foot-and-mouth disease (FMD) vaccine with antigens produced in suspension cultures of BHK cells grown in the presence of 5.0% bovine serum, from which FMD antibodies had been removed by PEG² precipitation.

However, since only a small number of cattle had been used, the vaccine was tested again in a large vaccinated population in order to determine the possible sensitivity of the cattle to the higher than usual bovine serum content.

A batch of the vaccine was prepared. Fifty crossbred Shorthorn Zebu cattle were inoculated subcutaneously with a 5 ml dose of this vaccine and revaccinated similarly 4 months later. No undesirable side effects were observed. Following this, 1500 purebred Nelore cattle were progressively incorporated into the experiment over a period

of 20 months. The cattle received between 3 and 5 vaccinations at 4-month intervals; no adverse reactions were observed.

In order to further test sensitivity to the vaccine, prior to the first revaccination of the original 50 cattle, 19 of them were inoculated intradermally in the caudal fold; on one side with 0.1 ml of the PEG-treated serum and on the other side with 0.1 ml of a non-treated control serum. No local reactions occurred during a 3-day observation period.

A similar test was made with 20 cattle which had received 5 vaccinations with the experimental vaccine. Five of the cattle developed a swelling of both caudal folds in the first hour after the sera injections which may have been the result of repeated vaccinations with a vaccine containing higher than usual amounts of serum component. This reaction disappeared within 5 hours and over the next 3 days no local or systematic abnormalities occurred. Since no hypersensitivity reactions were observed in several thousands of vaccinations, this problem does not seem to be of major importance.

¹ABARACON, D.; GIACOMETTI, H. *Bltm Centro Panamericano Fiebre Aftosa* 21-22: 44-48, 49-53, 1976.

²PEG - Polyethylene Glycol 6000 J.T. Baker, New Jersey 08865, USA.

Julio A. Mesquita
Pan-American Foot-and-Mouth Disease Center
Rio de Janeiro, Brazil.

A. S. Carneiro
Fazenda Indiana
Rio de Janeiro, Brazil.