8. SUMMARY

The main objective of this study was to determine the antigenic spectrum the variability, the heterogeneity, the inmunologic relation and the antigenic stability through continuos passajes in BHK tissue culture.

The strains A Boyaca/71-6000, A Guajira/71-6304, A Sabana/74-7510, A Cundinamarca/75-8046, A Antioquia/76-8381 and A Córdoba/76-8480, were seleeted based on their epidemiological importance, their antigenic characteristics and their eventual use as vaccine strains.

The serologic classification and the immunologic relationship of subtype A27 strains were determined by complement fixation, r and R values and serum neutralization tests. By this procedure, strain A27-8046 showed the widest spectrum regarding homologous strains and subtype A Sabana/74-7510. Strains with antigenic components of subtypes A18, A24 and

A32 were observed but no important antigenic differences were detected between A24 A Sabana/74 and subtype A18, when Lucam's Index C was used.

In order to establish if the vaecine strains mainteined in the progeny the original characteristcis, studies such as plaque size, analyses of viral populations, application of immunological blockade with specific immune serums and behaviour in mice were performed. With A6304 and A8480 strains, changes in the original antigenic characte-ristics were observed possibly due to selection of viral population in tissue culture. Moreover, the progeny isolated out of the plaques belonging to the strains A6000, A8046 and A8480 showed similar characteristics to the parental virus and segregate antigenic characteristics closely related with A24, A Sabana/74 and A32 subtypes. The above indicate the existence of strains with diverse antigenic components, as a result of genetic or structural components exchange.

A similar situation could exist us the field due to the varia-bility of the virus, the activity of several subtypes, the carrier state and the defficient immunization of the bovine population.

The above mentioned lead to difficulties in the selection of and adequate vaccinal strain able to offer a good immunological coverage against the different virus present in the field, and to the necessity of keeping a permanent surveillance of the antigenic characteristics of the strains used in the vaccine production, taking into account the different variability aspects, to which Foot and Mouth Disease Virus are subjected.

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