

ADVISABLE VACCINAL PROGRAMME  
AGAINST MIXOMATOSIS AND RABBIT  
HAEMORRHAGIC DISEASE VIRUSES ON  
WILD RABBITS

Pages Manté, A. and Artigas, C.  
Laboratorios HIPRA  
17170 - AMER (Girona) España

Summary

Affortunately until now only two viral diseases has been recognized affecting wild rabbits: Mixomatosis (MV) Joubert et al. 1972 and Rabbit Haemorrhagic Disease (RHDV) Liu et al. 1984.

Both diseases meanly has been responsible for the disappearance of the wild rabbits in many cynegetic areas of Spain (Pages 1989).

One of the best ways to avoid this diseases and to conserve the rabbits population is to use a controled repopulation method. We used for this subject rabbits captured from areas where they are abundant and we release them in the depopulated areas. Taking advantage of this method, we conduct one vaccination against MV during that time. Some hunting areas are facing with RHDV since 1989. So that, in this study we try to know the efficacy of a dual vaccinal plan against MV and RHDV carried out during the repopulation time. For this purpose, we tried experimently 100 wild rabbits vaccinated as follow:

- A - Forty rabbits divided in two replicas of twenty and twenty, vaccinated against MV and RHDV on separated sites of the rabbit shoulder but at the same time.
- B - Forty rabbits divided on two replicas of twenty and twenty, vaccinated with MV and after 8 days vaccinated against RHDV.
- C - Twenty rabbits as controls five rabbits per replica.

The observation period has been of 30 days and the serological response has been tested by Elisa against MV and by Hemagglutination inhibition (HI) against RHD.

The results we obtained show us that the dual vaccinated against MV and RHDV is possible at the same time. The serological response is better on the trial A than in B. MV (Elisa relative index), ERI= 7. RHDV: HI 1/128 and MV ERI = 6.3 and RHDV HI 1/107 respectively.

Taking in account the manegement and the serological response the plan A could be more useful than B on repopulations of wild rabbits.

### Introduction

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## Material and methods

### Rabbits

We used for this work wild rabbits captured during the night by means of special meshes, following the traditional method employed for cynegetic repopulations.

Before repopulation it is habitual to carry out the following programme:

- a) Inspection, by specialized personnel, of the area where the rabbits come from in order to check if there is some ill rabbit or cadavers.
- b) Coprologic and serologic analysis are done on a sample of 10 wild rabbits captured in this area.
- c) If the items a and b are o.k. we proceed to order the capture of the rabbits to be delivered to the repopulation area.

In this study, rabbits captured during february 1992 were employed; most of them were adult. We bled them using the marginal vein of the ear to evaluate antibodies against MV and RHDV.

The rabbits were housed in departments of 20 m<sup>2</sup> each, with window ventilation. The windows were covered with mosquito nets. Thirty cm diameter tubes and straw were available in each department to facilitate hiding and camouflage.

High in fibre and low in protein commercial feed and water were administered "ad libitum" during the whole trial.

Twenty rabbits from two of these departments (total 40 rabbits) were vaccinated at the same time, but separately, against MV and RHDV by subcutaneous route in the shoulder. The forty rabbits from the other two departments were vaccinated first against MV and 8 days later against RHDV by subcutaneous route in the shoulder.

The rabbits were observed during 30 days, after that period they were bled and inspected and in their serum antibodies against MV and RHDV were evaluated.

The obtained serological results are expressed using mean values and of % coefficient variation (C.V.).

### Vaccines

To carry out this experiments we used commercial vaccines of MV (Mixohipra-H) and RHDV (Cunipravac-RHD) with a titer of  $10^8$  exp. 2.5 TCID<sub>50</sub> and  $10^8$  exp. 4 RLD<sub>50</sub> per dosis.

The obtained results were evaluated following the Espuña et al. (1984) method for MV and the Pages (1989) method for RHDV.

Levels  $\geq 1/8$  of RHDV and relative index (IR)  $\geq 2$  of MV are considered positive.

### Results

The results are expressed in tables 1 and 2

Table 1: Stablished vaccinal plan

<u>Vaccinal plan</u>	<u>M.V.</u>	<u>R.H.D.V.</u>
A	day 0	day 0
B	day 0	day 8
C	control	control

Table 2: Serological results and coefficient variation (CV) against MV and RHD

<u>Vaccinal plan</u>	<u>Replica</u>	<u>M.V.*</u>	<u>C.V.(%)</u>	<u>R.H.D.V.*</u>	<u>C.V.(%)</u>
A	1	7.3	0.5	1/128	10.3
	2	6.7	10.1	1/128	13.1
B	1	6.6	8.7	1/100	7.3
	2	6.0	13.4	1/115	5.3
C	A1	0	0	(-)	0
	A2	0	0	(-)	0
	B1	0	0	(-)	0
	B2	0	0	(-)	0

\* Mean value

### Discussion

As we can observe in table 2 the vaccinal plan A using a vaccination of MV and RHDV at the same time gives better antibodies levels than the plan B for both evaluated virus.

From the obtained results it can be deduced that this two vaccines have no interferences when used at the same time. Furthermore, taking in account the management, the plan A is more convenient.

As we also can observe in table 2, the control rabbits gave negative to MV as it was stated by Pages and España 1988 using similar homologous MV vaccines.

The no diffusion of the homologous MV virus rabbit to rabbit, represents a high handicap to control this disease in wild rabbits since this obliges us to vaccinate each rabbit individually, which is very difficult at the field level.

According to the results obtained until now, we believe the vaccinal plan A could be of high value to control MV and RHDV on the released rabbits used for cynegetic repopulations

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