

# Efficacy of live attenuated MB-1 vaccine against infectious bursal disease in Isa Brown at field trial

Nguyen T. K. Oanh\*, Nguyen M. Ho and Quach T. Anh

The faculty of animal science and veterinary medicine, Nong Lam University, Ho Chi Minh City, Vietnam

\*Corresponding author and email: Nguyen Thi Kieu Oanh (nguyenkieuoanh.namlam@gmail.com)

## 1. Introduction

Infectious bursal disease vaccines can inject In-ovo or one-day-old chick (DOC) at the hatchery. It was developed to solve a lot of problems with vaccination practices including the timing of vaccination and safety of IBDV vaccines, which made the control of IBDV by vaccination more challenging (Etteradossi and Saif, 2013). The MB-1 vaccine with the advantage of their overcoming the interference with MDA, safety, early onset of immunity, and effective, and applied convenience in a hatchery was proven (De -Wit et al., 2021). In Viet Nam, there is no published report on this MB-1 vaccine to inject for layer breed. Hence, this experiment was conducted to evaluate the efficacy and safety of MB-1 vaccinated Isa Brown layer in the field trial.

## 2. Material and Methods

More than 50,000 one-day-old Isa Brown chicks were injected with 0.1 mL MB-1 vaccine at the hatchery by SC (Figure 1).

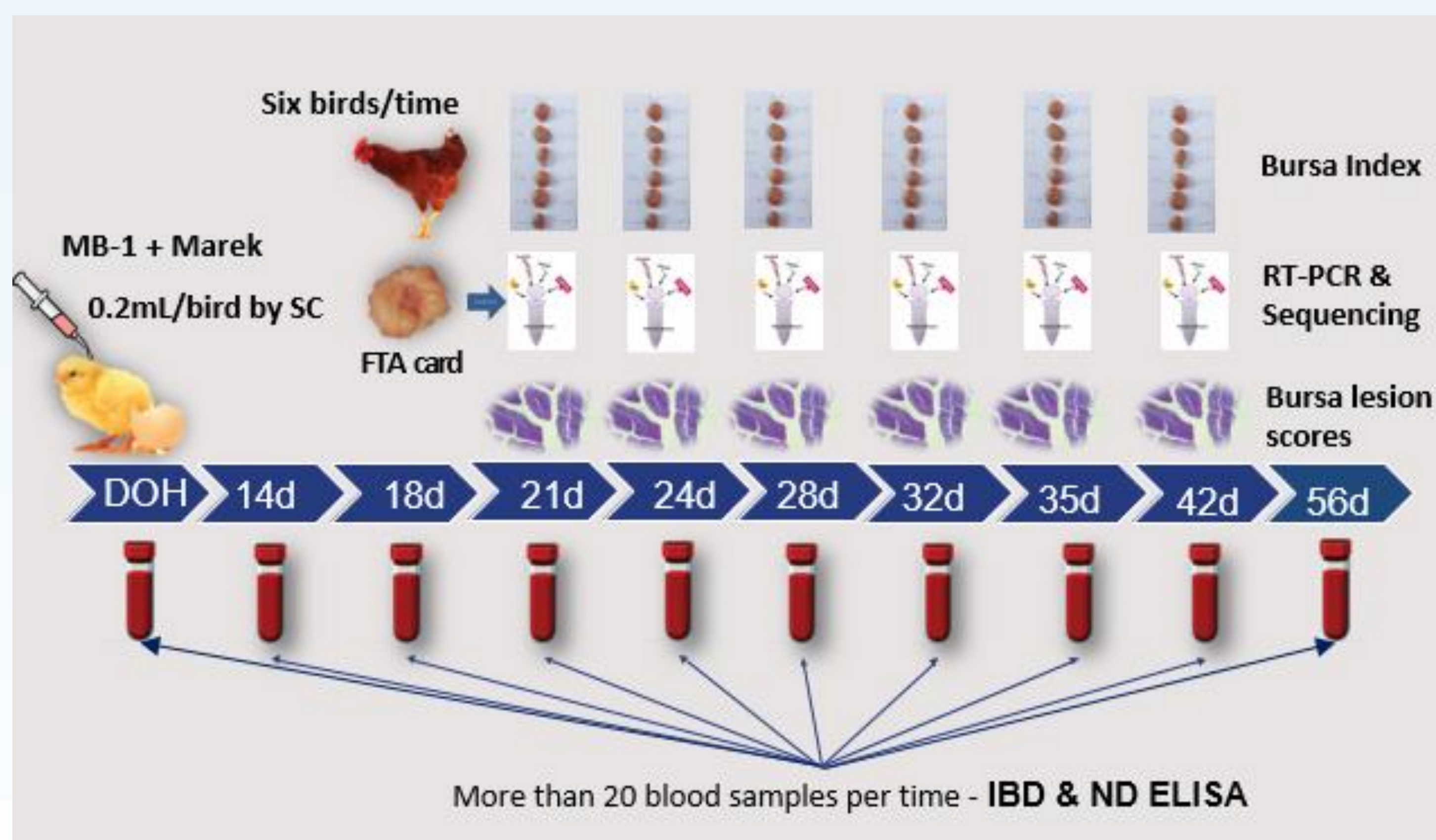


Figure 1. The experimental design

## 3. Results and discussion

### 3.1 Efficacy Results

MB-1 virus vaccine was located early in the Bursa from 21d and presented til 42d without the presence of environmental viruses or other strains of vaccine viruses (Table 1).

The IBD ELISA Idexx titers increased rapidly and got a high level with a good uniform from 28d onwards (Chart 1).

Table 1: IBDV RT- PCR and Sequencing

Age (d)	21	24	28	32	35	42
PCR results	Positive	Positive	Positive	Positive	Positive	Positive
Strain	M.B.	M.B.	M.B.	M.B.	M.B.	M.B.

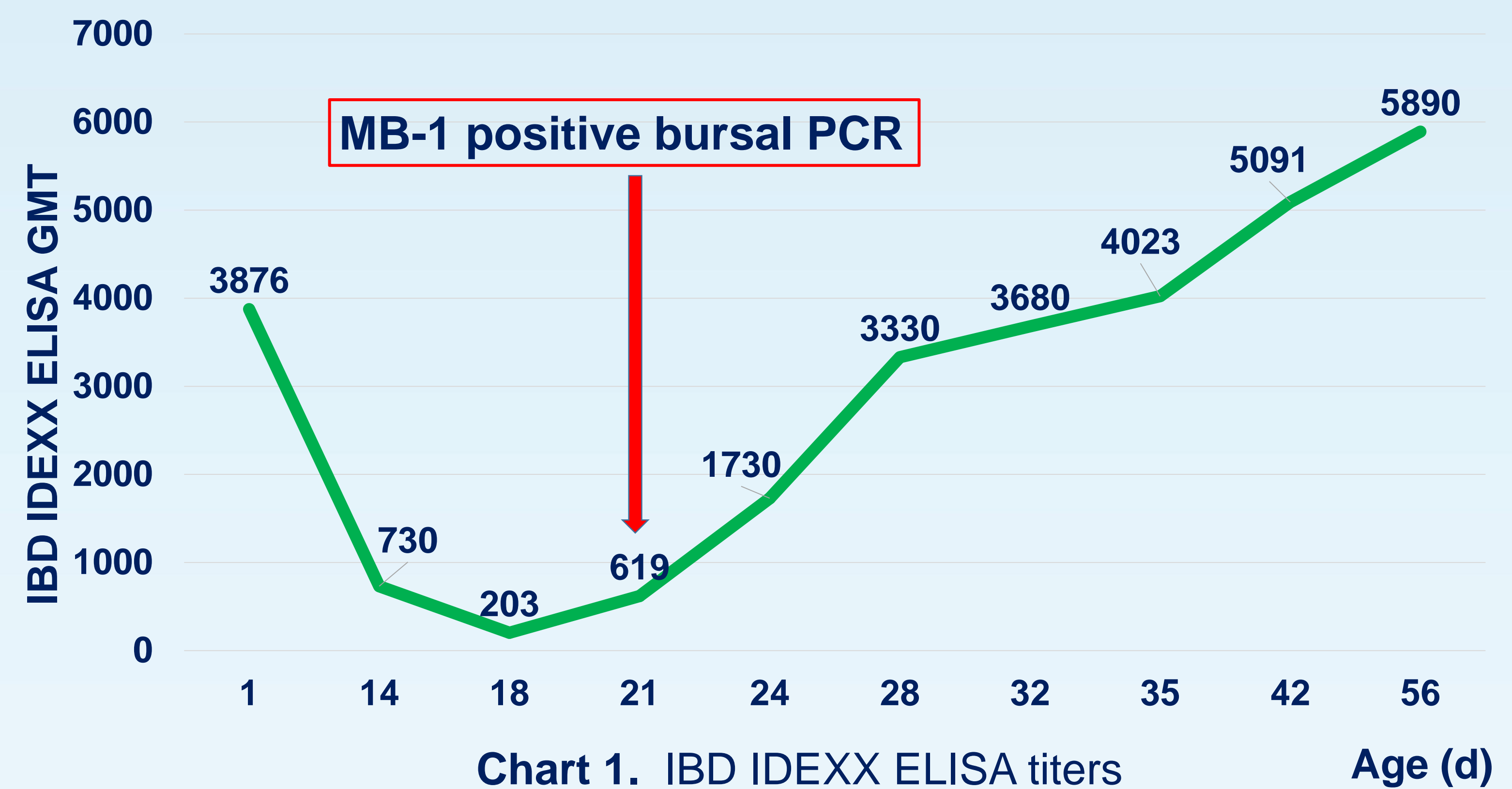


Chart 1. IBD IDEXX ELISA titers

### 3.2 Results Safety

Bursal lesion scores and Bursa index were in the normal range and showed signs of recovery at 32d (Chart 2 & Chart 3). The average ND antibody titer was 1411 at 24d and reached a high level at 56d and was very uniform with good CV (Table 2).

Table 2: ND IDEXX ELISA titers & CV

Age (d)	GMT	CV%	N
1	7084	47.90	40
14	1207	74.79	22
18	352	94.36	22
21	575	77.07	22
24	1411	197.56	22
28	5581	74.00	22
32	6497	79.13	22
35	8504	43.93	20
42	9101	51.91	20
56	7822	39.38	20

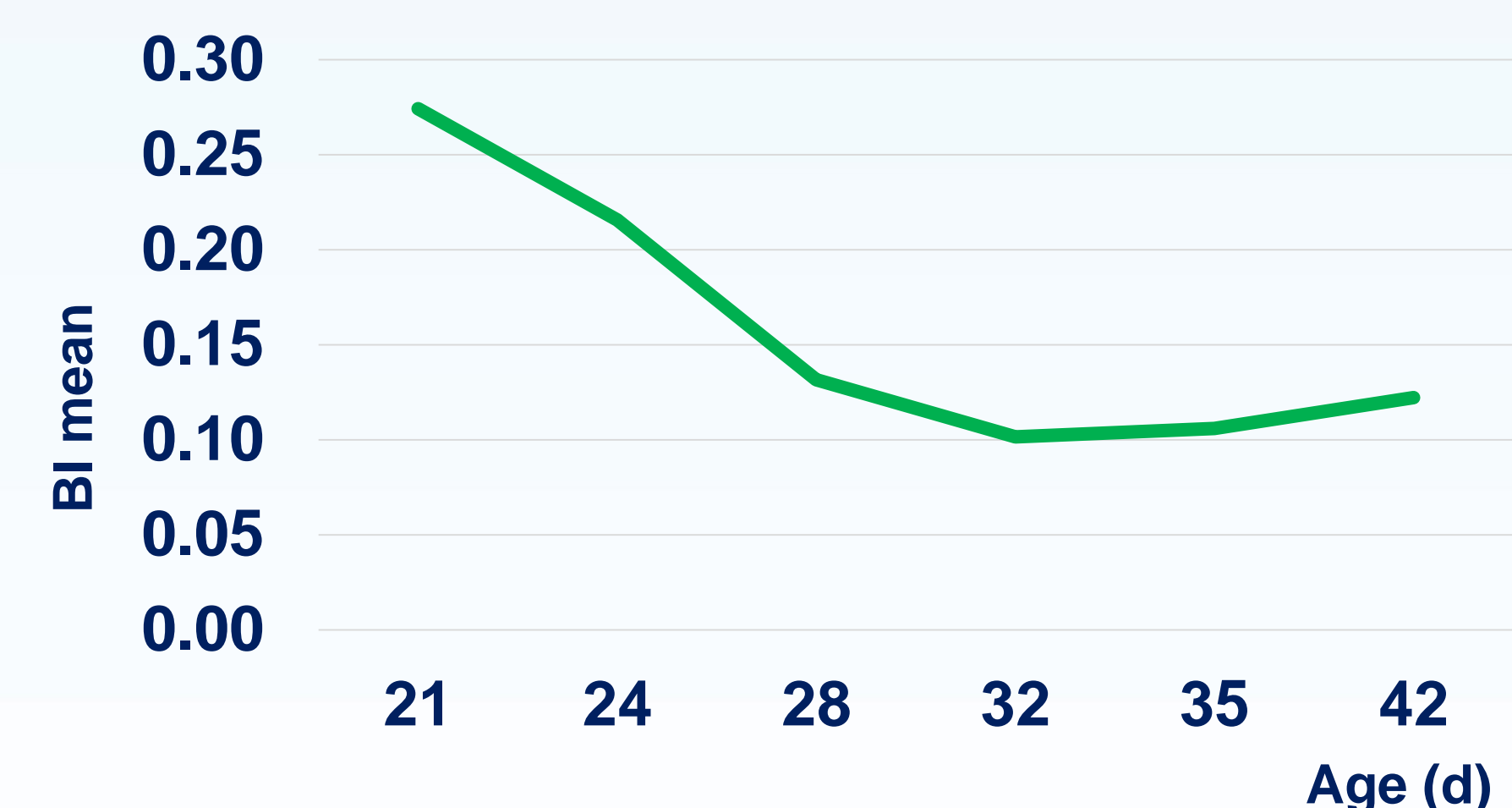


Chart 2. Bursa index

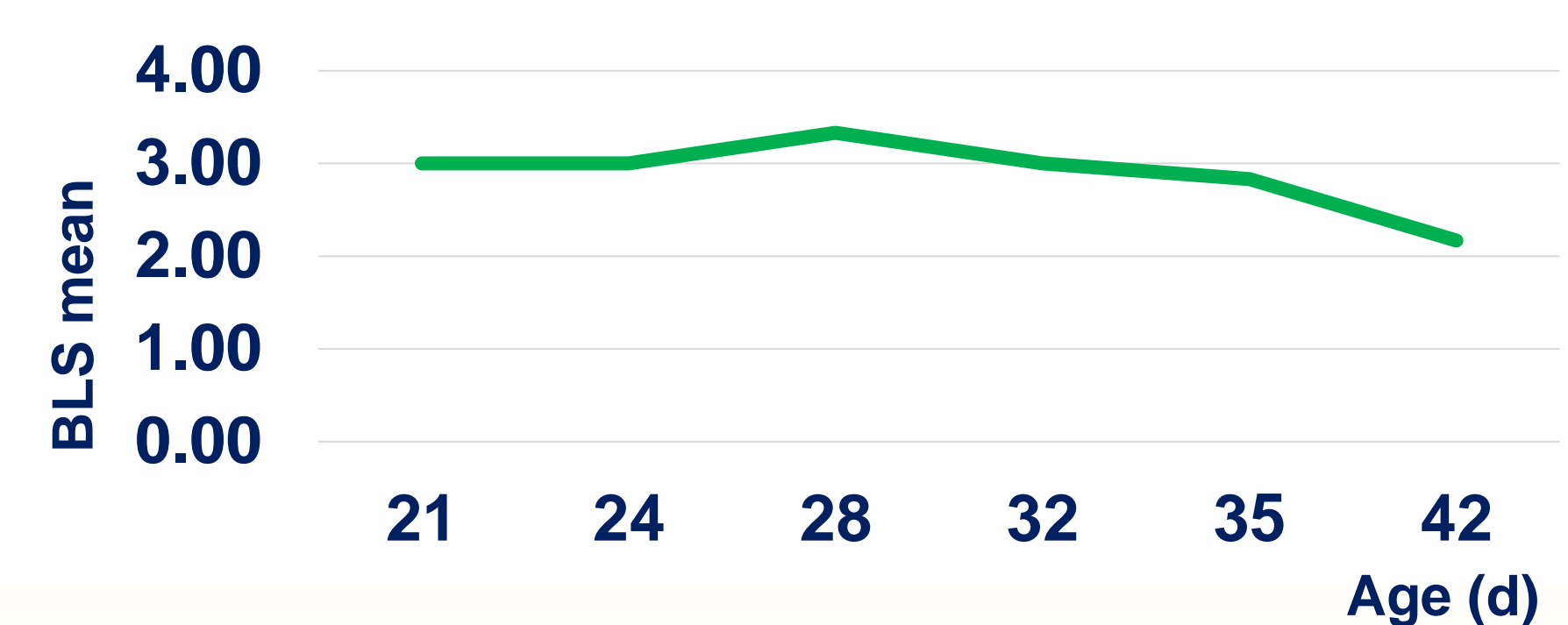


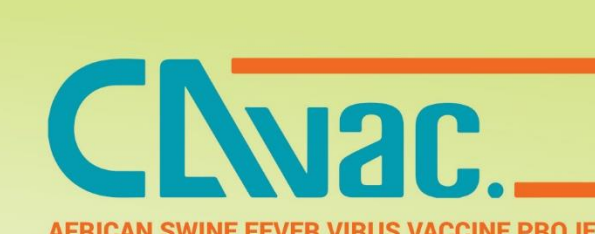
Chart 3. Bursal lesion scores

## 4. Conclusions

The efficacy parameters of IBD and ND IDEXX ELISA titers, Bursa PCR, BI, BLS showed that MB-1 vaccine is highly efficacious and totally safe to layers birds.

## References

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- Etteradossi, N., & Saif, Y. m. (2013). Infectious Bursal Disease. In *Diseases of Poultry* (pp. 219–246). John Wiley & Sons, Ltd.



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