


Cevac
IBird®



**CEVAC IBIRD®: INFECTIOUS
BRONCHITIS UNDER CONTROL
FROM THE HATCHERY.**





Infectious bronchitis is caused by a chicken coronavirus. This virus is highly contagious and is present all over the world. It has the ability to replicate in the respiratory tract, the kidney and the oviduct of the birds. It causes severe economic losses in either broilers or laying hens. Infectious bronchitis virus is characterized by its capacity to mutate. Therefore multiple antigenic variants are generated and circulate with different, pathotype and immunotype characteristics.

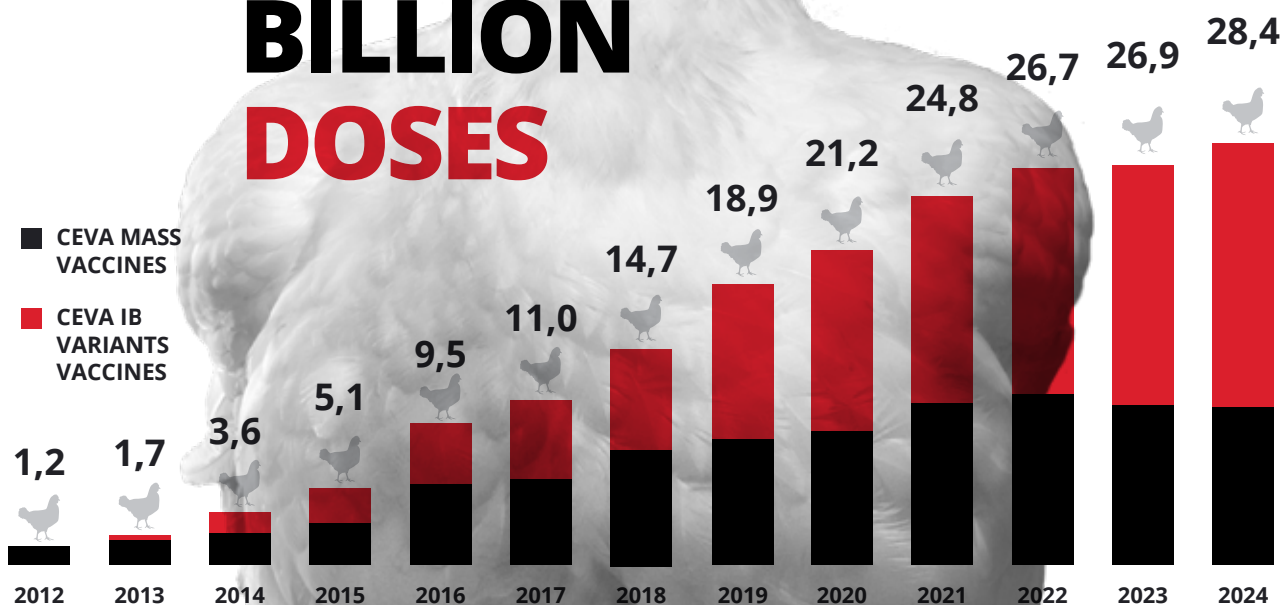
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CEVA GLOBAL REFERENCE IN INFECTIOUS **BRONCHITIS** CONTROL



BILLION DOSES



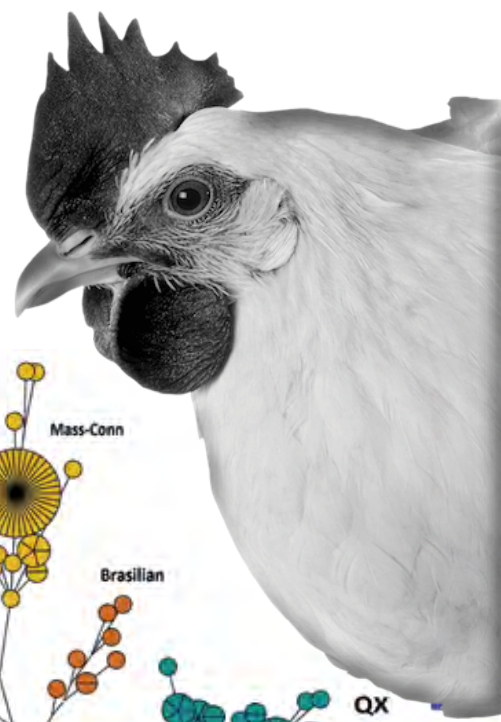


THE VACCINE



Cevac IBird® is a vaccine which contains the attenuated 1/96 IBV strain, classified within the 793B genetic group. Applied together with a live Mass-type vaccine, Cevac IBird® provides a strong protection against Mass, 793B, QX, Q1, variant-2 (IS/1494), Italy-02, IS/885, D1456, Tunisian, Taiwanese and Malaysian IBV strains, including a reduction of the field virus shedding.

Through numerous laboratory and field trials, the safety and the efficacy of these vaccines, in combination with a Mass type live vaccine were demonstrated. Proper spray application protocols using Desvac® In Line Spray, and well defined post-vaccination monitoring procedures, help to achieve a high vaccination rate and a proper quality of application.



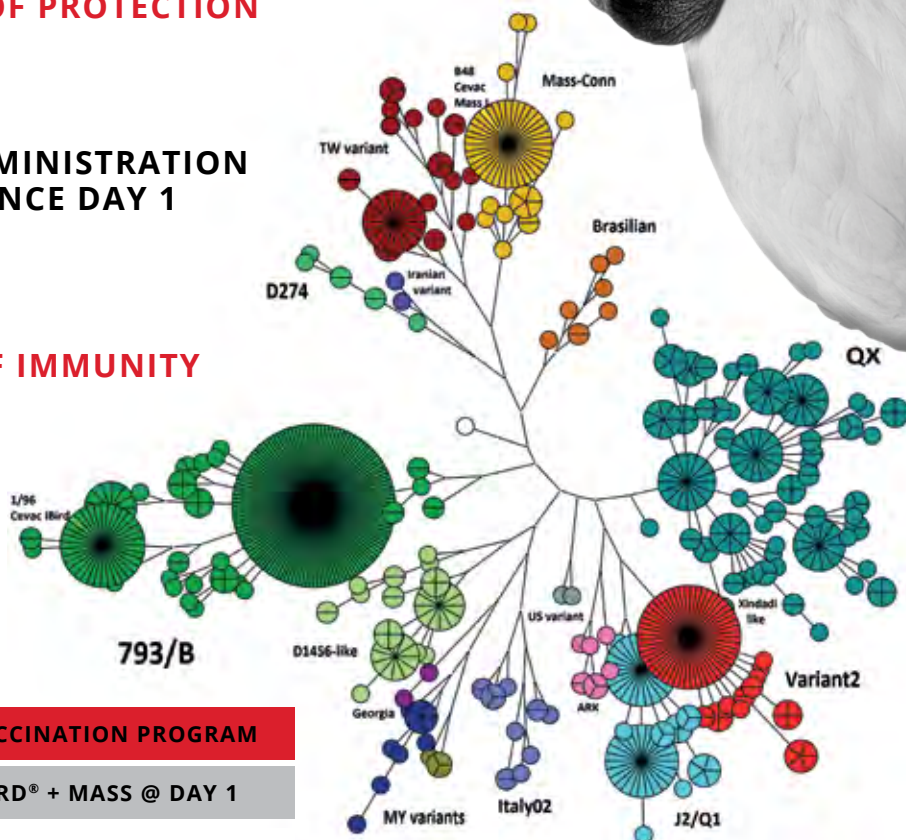
BROAD SPECTRUM OF PROTECTION



**HOMOGENEOUS ADMINISTRATION
FOR PROTECTION SINCE DAY 1**



LONG DURATION OF IMMUNITY



CHALLENGE STRAIN	VACCINATION PROGRAM
	IBIRD® + MASS @ DAY 1
793B	YES
MASS	YES
QX	YES
Q1 / J2	YES
ITALIAN 02	YES
EGYPTIAN VARIANT	YES
VARIANT 2	YES
MALAYSIAN VARIANT	YES
TUNISIAN VARIANT	YES
TAIWANESE VARIANT	YES

Ceva demonstrated that **Cevac IBird®** + Mass vaccine were fully compatible & safe when mixed for spray application in the hatchery, and provided protection against several challenge strains listed above.

VIRUS CONTROL FOR DISEASE PREVENTION

CEVAC IBIRD® REDUCES THE CHALLENGE VIRUS SHEDDING OF VACCINATED BIRDS AFTER FIELD IBV CHALLENGE

VACCINATION	CHALLENGE STRAIN	IBV RNA LOAD REDUCTION
CEVAC IBIRD® + MASS VACCINE	QX	4.8 log ₁₀
	VARIANT-2	3.9 log ₁₀
	D1456 MIDDLE-EAST	3.1 log ₁₀
	J2/Q1	4.1 log ₁₀
	GA08	3.8 log ₁₀
	ARK	4.6 log ₁₀
	TUNISIAN	3.9 log ₁₀
	MALAYSIAN	4.6 log ₁₀

*The treated group birds received of the vaccines (CEVAC IBird® + Massachetts) at day-old, challenged at 3 weeks of age, and evaluated 5 days pós-challenge.

The control group was not vaccinated, challenged at 3 weeks of age, and evaluated 5 days pós-challenge.

The reduction was calculated based on the difference between the control and treated group.

THE REDUCTION

OBTAINED WAS BETWEEN 3,1 TO 4,8 LOG10, WHAT MEANS A REDUCTION OF 1.200 TO 60.000-FOLD REDUCTION OF VIRUS SHEDDING



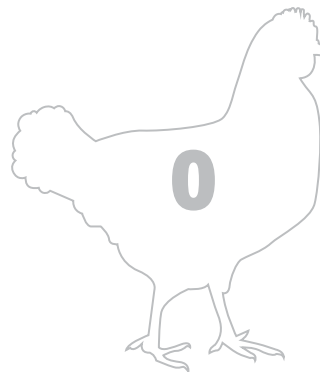


ASSOCIATION OF
CEVAC IBIRD® +
MASS VACCINE IN
THE HATCHERY CAN
PROTECT FOR 9 WEEKS.

PROTECTION OF CILIARY ACTIVITY



CEVAC IBIRD®
+ MASS STRAIN



CONTROL

Copy number/ml*

negative

1.16×10^8



ANIMALS: COMMERCIAL BROILERS WITH MDA^{IBV}



VACCINATION: ONE-DAY-OLD BROILERS (D0) WERE VACCINATED WITH CEVAC IBIRD® AND CEV-AC MASS L BY SPRAY.



CHALLENGE: ON D63, CHALLENGED WITH IB 793B (5 LOG₁₀ EID₅₀ PER BIRD BY EYE-DROP)

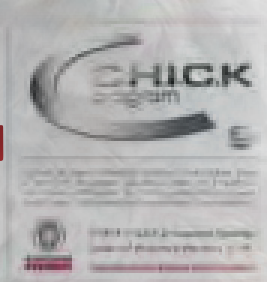


ASSESSMENT CRITERIA: : CILIARY ACTIVITY OF TRACHEAL EXPLANTS ON THE 5TH DAY AFTER CHALLENGE (D68) AND QUANTIFICATION OF THE CHALLENGE VIRUS.

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