

Volvac[®] AC Plus

State of the art vaccines against Avian Coryza (AC)

The Widest




RANGE OF COMBINATIONS



Boehringer
Ingelheim

Avian Infectious Coryza (AC)



"Infectious Coryza is an acute respiratory disease of chickens characterized by nasal discharge, sneezing, and swelling of the face under the eyes that occurs wherever chickens are raised.

The causative bacterium is *Avibacterium paragallinarum*, a gram-negative, pleomorphic, non-motile, catalase-negative, microaerophilic rod that requires nicotinamide adenine dinucleotide (V-factor) for *in vitro* growth. It is important to note that V-Factor – independent *Avibacterium paragallinarum* have been recovered in South Africa and Mexico.

The most commonly used serotyping scheme is the Page scheme, which groups *Avibacterium paragallinarum* isolates into serovars A,B, and C that correlate with immunotype specificity. Infected flocks are a constant threat to uninfected flocks. Transmission is accepted as being by direct contact, airborne droplets and contamination of drinking water.

Prevention is the best method of control. If replacement pullets are to be placed on a farm that has a history of Infectious Coryza, killed vaccines are available to help prevent and control the disease. As serovars A, B, and C are not cross-protective, it is essential that these killed vaccines contain the serovars present in the target population."

P.J Blackall¹

Key factors

for an effective vaccination:

- **Quality of the vaccine:**
To guarantee the right absorption in the bird affording the desired safety level.
- **Quantity and stability of the antigen:**
To guarantee the right amount of antigen per dose in all vaccinated chickens.
- **Correct application:**
To assure the entry of the antigenic mass into the body of all birds in the flock.

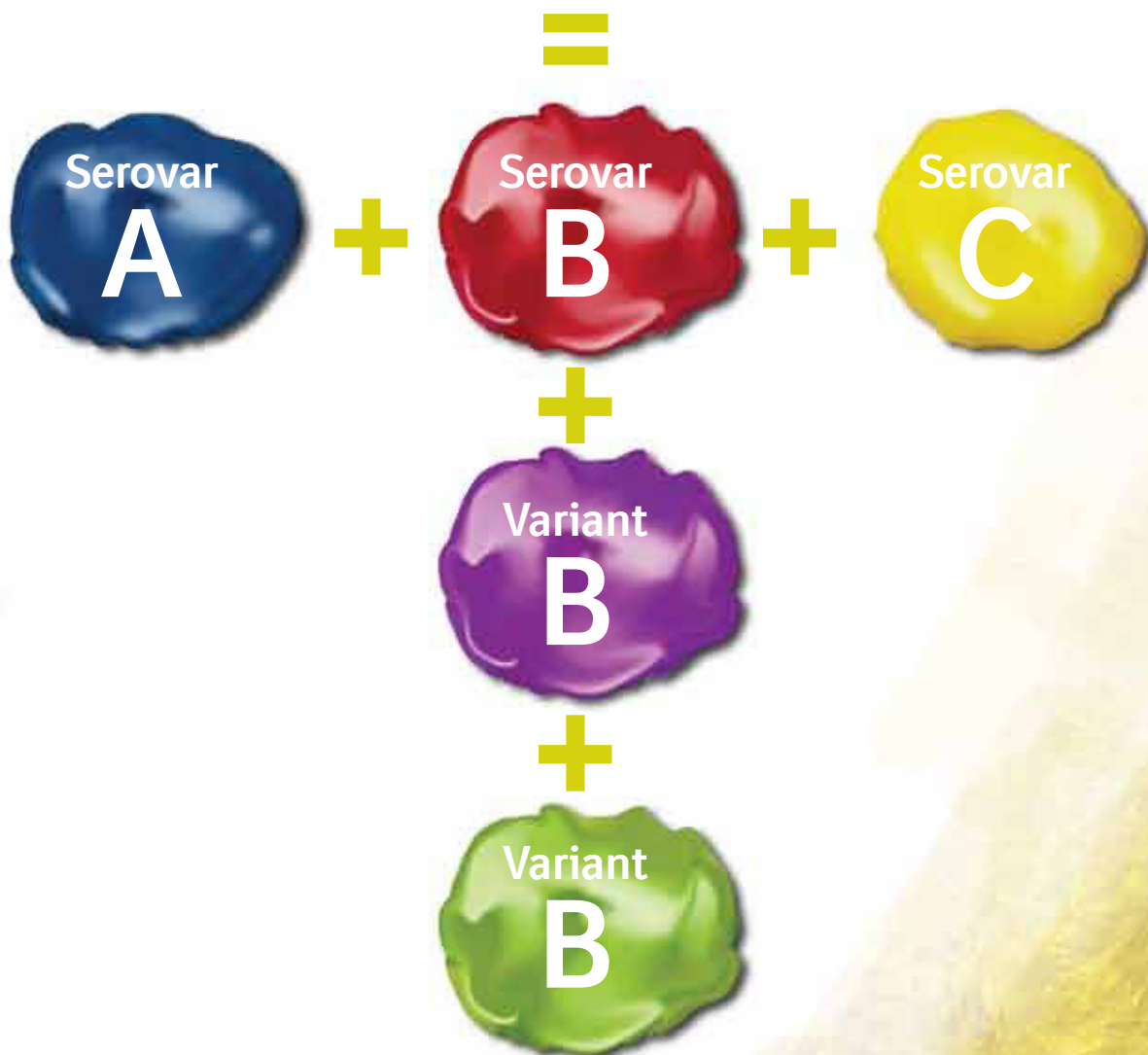
The Widest Combination of Antigens

Better protection

Volvac® AC Plus is the vaccine with the widest combination of Avian Coryza antigens to give a better protection.

Inactivated Avian Coryza vaccines provide protection only against the serovars included in the bacterin. Therefore it is important that the vaccine contains all the serovars to provide a wide spectrum of protection in the birds. Besides the serovars A and C it has been demonstrated that the serovar B is also fully pathogenic causing severe lesions in chickens. Since different strains of serovar B provide no cross-protection among themselves, it is crucial to provide vaccines containing several strains of B serovar.

Volvac® AC Plus



Emulsified vaccines.

Emulsion Quality

Boehringer Ingelheim Vetmedica killed vaccines are manufactured with high quality raw materials to assure the best results in chickens² and safety for the vaccinating personnel; as it is described in table 1.

Absorption evaluation of Boehringer Ingelheim Vetmedica emulsified vaccines:

Post-vaccination days



Table 1. Absorption level of a concentrated emulsified vaccine (0.2 ml), 5 weeks post-vaccination.

² Experimental studies performed to demonstrate the absorption level of an emulsified and concentrated vaccine. Boehringer Ingelheim Vetmedica Technical Department.

Correct absorption of an emulsified vaccine provides better productivity thanks to:

1. Absence of excessive irritation in the application area
2. Better immune response
3. High titre till the end of the cycle
4. Long lasting protection of the flock
5. No adverse effect on the production parameters

The ideal combination

Cost savings

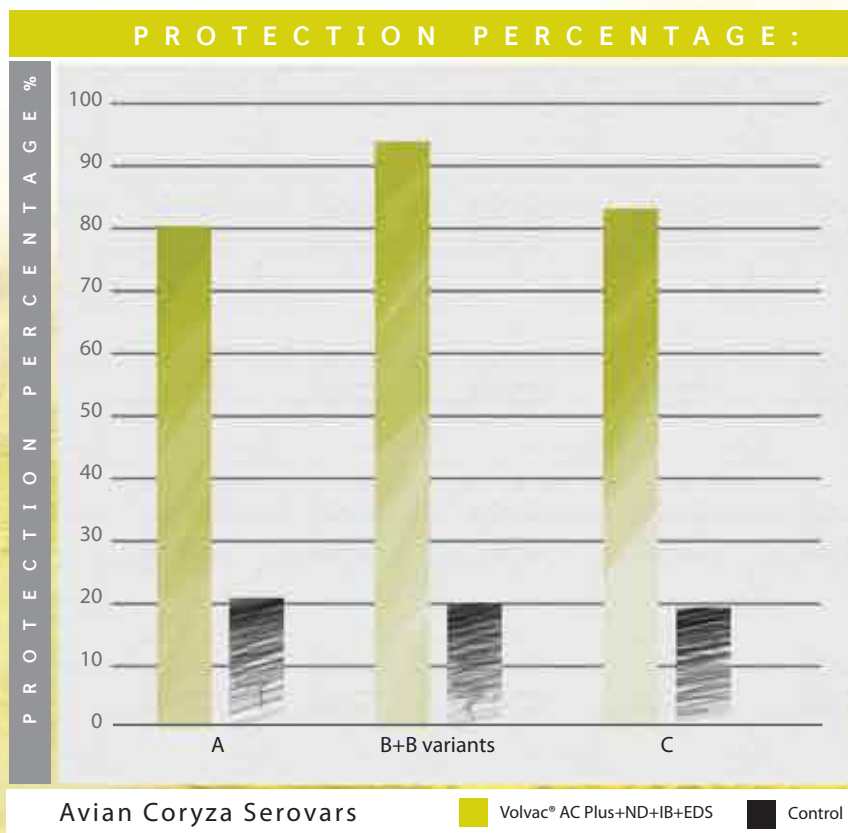
Boehringer Ingelheim Vetmedica offers not only the widest Avian Coryza strains in a vaccine but the ideal combination to prevent the most common diseases that cause egg drop problem in layers as well:

>>> Volvac® AC Plus+ND+IB+EDS

In a recently conducted field trial³, the efficacy of each of the fractions against the respective diseases has been demonstrated.

Vaccinated birds with Volvac® ACPlus+ND+IB+EDS KV have been challenged with Avian Coryza A,B, B variants and C serovars, Newcastle Disease, Infectious Bronchitis and Egg Drop Syndrome strains and compared with a non-vaccinated control group:

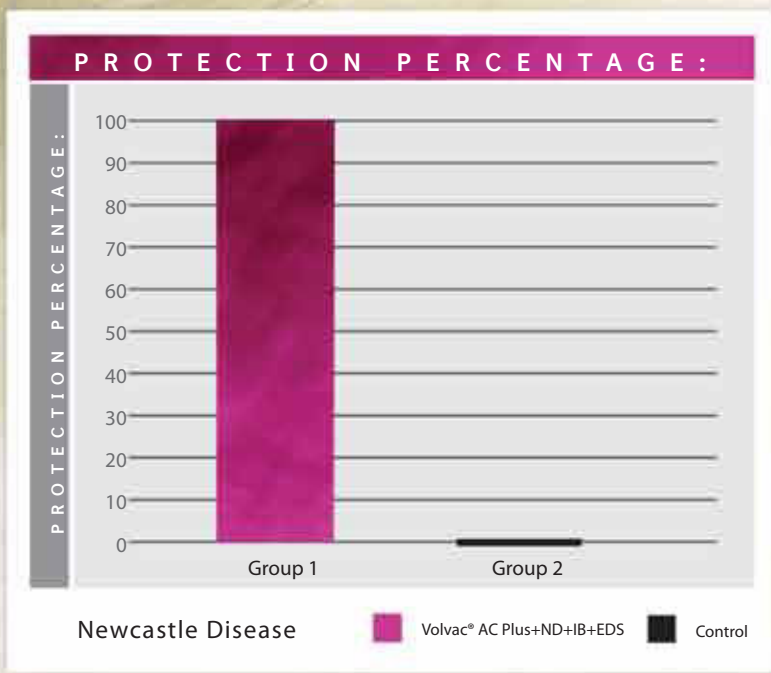
Avian Coryza:



The effectiveness of Volvac® ACPlus+ND+IB+EDS KV was demonstrated offering a total protection higher than 80 percent in the group vaccinated after challenge.

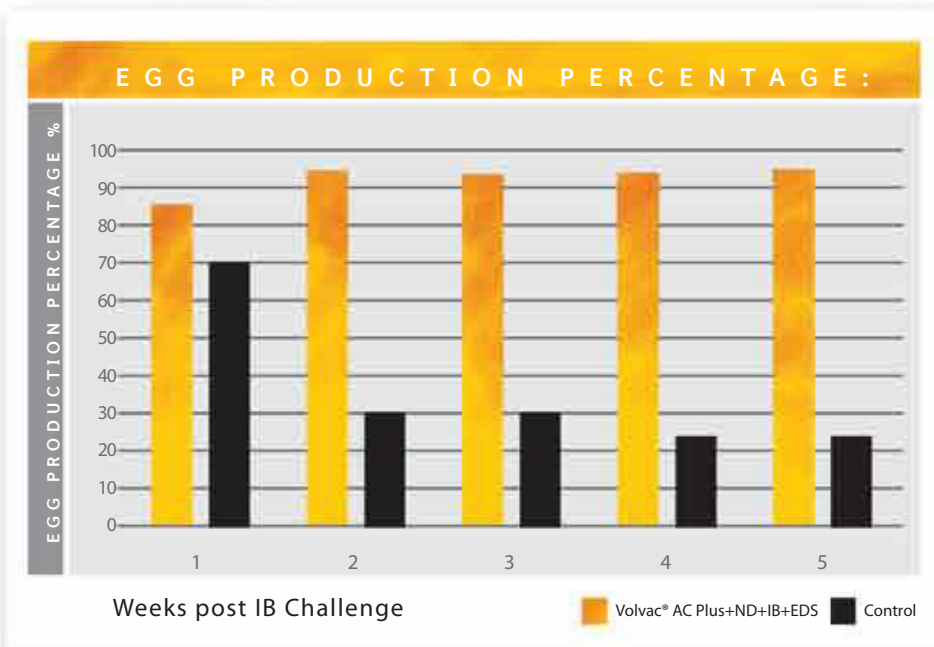


Newcastle Disease:

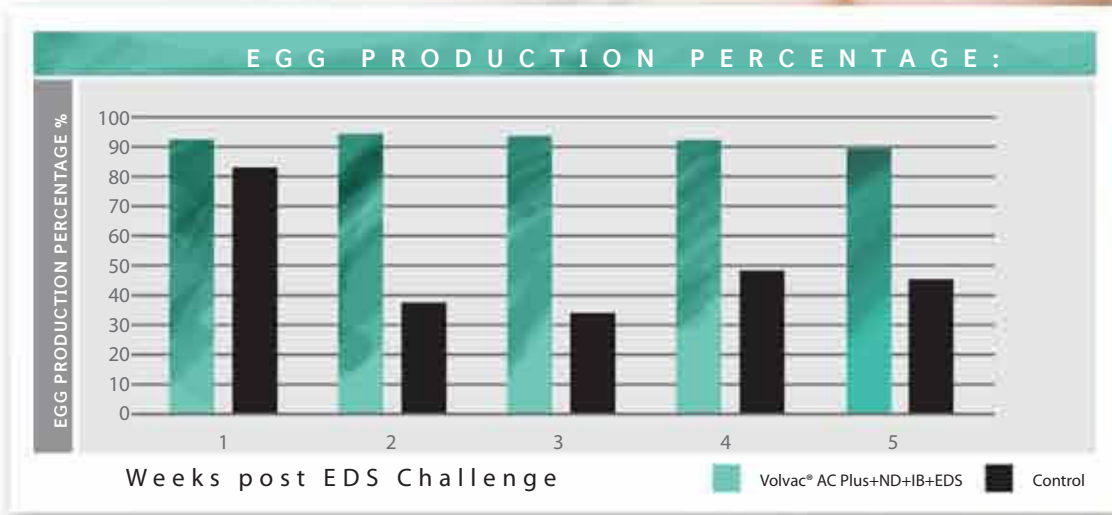


The vaccine complies with the effectiveness evaluation for the Newcastle Disease fraction demonstrating 100 percent of protection in the vaccinated birds vs. 100 % mortality of the non-vaccinated birds.

Infectious Bronchitis:







Egg Drop Syndrome:







The effectiveness of the vaccine against Infectious Bronchitis and Egg Drop Syndrome virus was demonstrated statistically with a significant difference in production between the groups vaccinated with Volvac® AC Plus+ND+IB+EDS KV and the groups not vaccinated.

Conclusions

ADVANTAGES

-  The widest combination of Avian Coryza strains in a vaccine.
-  Excellent quality of emulsion and aluminium hydroxide component ensuring an absolute safety of the vaccine.
-  The widest combination of antigens in a single vaccine against egg drop problems.
Volvac® AC Plus+ND+IB+EDS.
-  The widest range of vaccines against Avian Coryza.

BENEFITS

-  Better broad spectrum protection against Avian Coryza.
-  Increase the immune response = better egg production performance.
-  Less handling costs and savings in medication.
-  Versatility in the use of vaccines suitable to any vaccination program.

The Widest Range of Vaccines

Versatility

Volvac® AC Plus Emul Bacterin KV



FORMULA	INDICATIONS	DOSE	WARNINGS
Bacterin elaborated with A,B, B variants and C serotypes of <i>Avibacterium paragallinarum</i> , inactivated and emulsified in oil adjuvant. Each 0.5 ml contains a minimum titer: $10^{8.0}$ EID ₅₀ /dose of each Avian Coryza serotype before inactivation.	Recommended for the vaccination of healthy birds against Avian Infectious Coryza (AC)	0.5 ml / bird by the subcutaneous route in the middle third part back of the neck. Recommended for the first vaccination (4-6 weeks of age) and second vaccination 4 weeks before the onset of egg production. Presentation: Plastic bottle: 500 ml (1000 ds)	Vaccinate healthy birds only. The bottle of the vaccine should be removed from the refrigerator several hours before use until reach room temperature (18-25°) to ensure optimal syringe-ability and to avoid irritation in injected birds. Shake well before use. Use sterile vaccination equipments. When inoculation by accident in any body area of the personnel an emergency medical advice must be taken. Store out of direct sunlight between 2 – 7°C. Do not freeze. Burn opened vials and unused contents. Carefully read label direction before use. Keep out of reach of children.

Volvac® AC Plus Bacterin KV



FORMULA	INDICATIONS	DOSE	WARNINGS
Bacterin elaborated with A,B, B variants and C serotypes of <i>Avibacterium paragallinarum</i> , inactivated and absorbed in Aluminium Hydroxide. Each 0.5 ml contains a minimum titer: $10^{8.0}$ EID ₅₀ /dose of each Avian Coryza serotype before inactivation.	Recommended for the vaccination of healthy birds against Infectious Coryza (AC)	0.5 ml / bird by the subcutaneous route in the middle third part back of the neck. Recommended for the first vaccination (4-6 weeks of age). The second vaccination 4 weeks before the onset of egg production should be done with an oil emulsion vaccine (Volvac AC Plus Emul Bacterin KV). Presentation: Plastic bottle: 500 ml (1000 ds)	Vaccinate healthy birds only. The bottle of the vaccine should be removed from the refrigerator several hours before use until reach room temperature (18-25°) to ensure optimal syringe-ability and to avoid irritation in injected birds. Shake well before use. Use sterile vaccination equipments. When inoculation by accident in any body area of the personnel an emergency medical advice must be taken. Store out of direct sunlight between 2 – 7°C. Do not freeze. Burn opened vials and unused contents. Carefully read label direction before use. Keep out of reach of children.

Volvac® AC Plus + ND KV



FORMULA	INDICATIONS	DOSE	WARNINGS
Vaccine elaborated with A,B, B variants and C serotypes of <i>Avibacterium paragallinarum</i> , and LaSota strain of Newcastle Disease inactivated and emulsified in oil adjuvant. Each 0.5 ml contains a minimum titer: $10^{8.0}$ EID ₅₀ /dose of each Avian Coryza serotype and $10^{8.2}$ EID ₅₀ /dose of ND before inactivation.	Recommended for the vaccination of healthy birds against Avian Infectious Coryza (AC) and Newcastle Disease (ND)	0.5 ml / bird by the subcutaneous route in the middle third part back of the neck. Recommended for the first vaccination (4-6 weeks of age) and second vaccination 4 weeks before the onset of egg production. Presentation: Plastic bottle: 500 ml (1000 ds)	Vaccinate healthy birds only. The bottle of the vaccine should be removed from the refrigerator several hours before use until reach room temperature (18-25°) to ensure optimal syringe-ability and to avoid irritation in injected birds. Shake well before use. Use sterile vaccination equipments. When inoculation by accident in any body area of the personnel an emergency medical advice must be taken. Store out of direct sunlight between 2 – 7°C. Do not freeze. Burn opened vials and unused contents. Carefully read label direction before use. Keep out of reach of children.

Volvac® AC Plus + ND + IB KV



FORMULA	INDICATIONS	DOSE	WARNINGS
Vaccine elaborated with A,B, B variants and C serotypes of <i>Avibacterium paragallinarum</i> , LaSota strain of Newcastle Disease and Massachusetts serotype of Infectious Bronchitis inactivated and emulsified in oil adjuvant. Each 0.5 ml contains a minimum titer: $10^{8.0}$ EID ₅₀ /dose of each Avian Coryza serotype, $10^{8.2}$ EID ₅₀ /dose of ND and $10^{6.7}$ EID ₅₀ /dose of IB before inactivation.	Recommended for the vaccination of healthy birds against Avian Infectious Coryza (AC), Newcastle Disease (ND) and Infectious Bronchitis (IB)	0.5 ml / bird by the subcutaneous route in the middle third part back of the neck. Recommended for the vaccination 4 weeks before the onset of egg production. A primary vaccination against AC is recommended for a maximum booster effect Presentation: Plastic bottle: 500 ml (1000 ds)	Vaccinate healthy birds only. The bottle of the vaccine should be removed from the refrigerator several hours before use until reach room temperature (18-25°) to ensure optimal syringe-ability and to avoid irritation in injected birds. Shake well before use. Use sterile vaccination equipments. When inoculation by accident in any body area of the personnel an emergency medical advice must be taken. Store out of direct sunlight between 2 – 7°C. Do not freeze. Burn opened vials and unused contents. Carefully read label direction before use. Keep out of reach of children.

Volvac® AC Plus + ND + IB + EDS KV



FORMULA	INDICATIONS	DOSE	WARNINGS
Vaccine elaborated with A,B, B variants and C serotypes of <i>Avibacterium paragallinarum</i> , LaSota strain of Newcastle Disease, Massachusetts serotype of Infectious Bronchitis and strain 127 of Egg Drop Syndrome inactivated and emulsified in oil adjuvant. Each 0.5 ml contains a minimum titer: $10^{8.0}$ EID ₅₀ /dose of each Avian Coryza serotype, $10^{8.2}$ EID ₅₀ /dose of ND, $10^{6.7}$ EID ₅₀ /dose of IB and 1000 HAU/dose of EDS before inactivation.	Recommended for the vaccination of healthy birds against Avian Infectious Coryza (AC), Newcastle Disease (ND), Infectious Bronchitis (IB) and Egg Drop Syndrome (EDS)	0.5 ml / bird by the subcutaneous route in the middle third part back of the neck. Recommended for the vaccination 4 weeks before the onset of egg production. A primary vaccination against AC is recommended for a maximum booster effect Presentation: Plastic bottle: 500 ml (1000 ds)	Vaccinate healthy birds only. The bottle of the vaccine should be removed from the refrigerator several hours before use until reach room temperature (18-25°) to ensure optimal syringe-ability and to avoid irritation in injected birds. Shake well before use. Use sterile vaccination equipments. When inoculation by accident in any body area of the personnel an emergency medical advice must be taken. Store out of direct sunlight between 2 – 7°C. Do not freeze. Burn opened vials and unused contents. Carefully read label direction before use. Keep out of reach of children..

Consult the veterinarian