

## Immune Response Augmentation Effects of Ingredient of PHYTOCEE® in Broilers : *Withania somnifera* (Ashwagandha)

### OBJECTIVE

To study the effect of dietary supplementation with of *Withania somnifera* root powder (WSR) on in chicken experimentally infected with infectious bursal disease virus (IBDV).

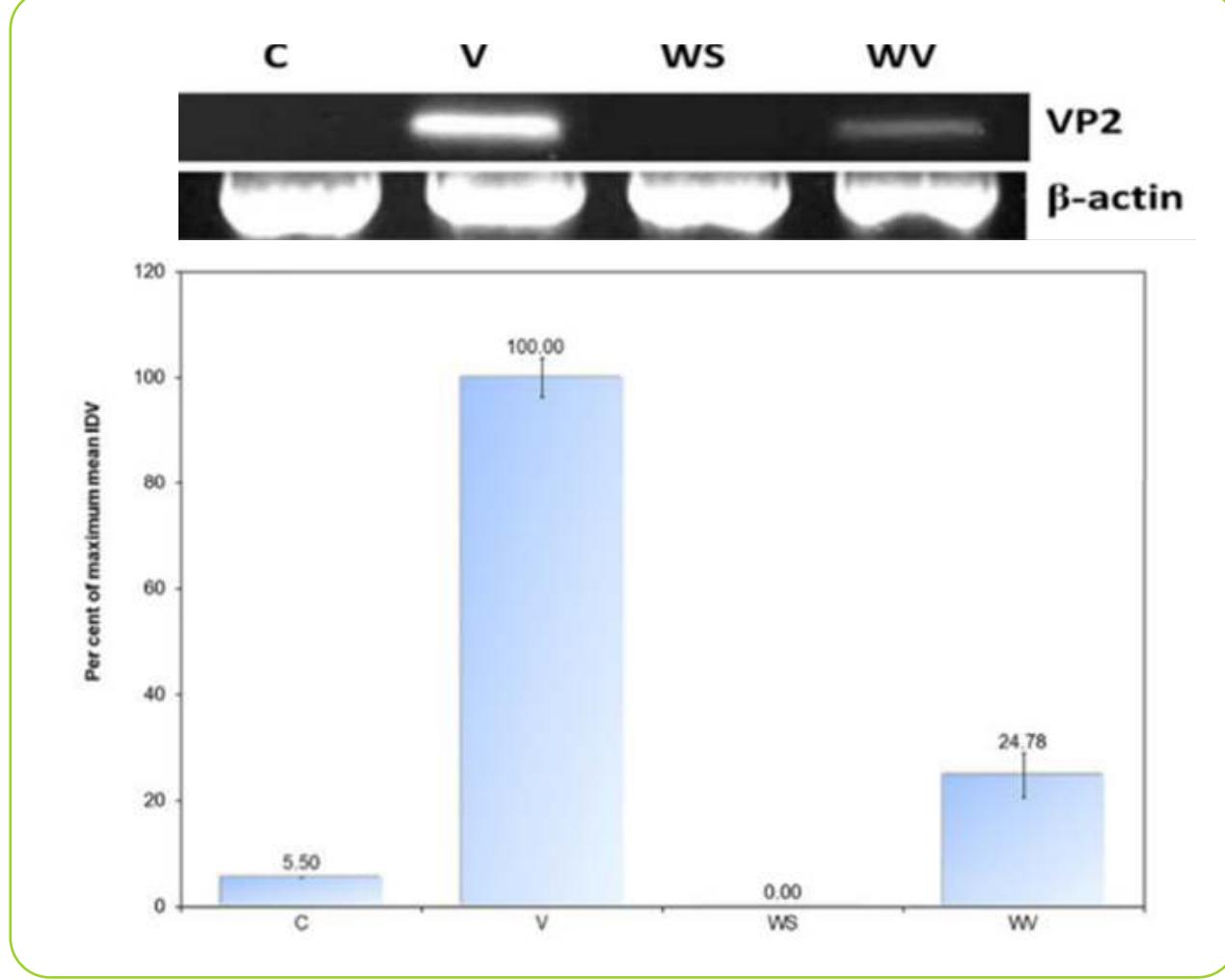
### MATERIALS AND METHODS

5-day-old chicks (n=48) of either sex, reared individually under cage system. The test comprised of a two-factorial design (n=12) as under:

WS	Virus
-	+
-	Control (C)
+	<i>Withania somnifera</i> supplemented (WS)
	Virus infected (V)
	<i>Withania somnifera</i> supplemented and virus infected (WV)

Chicks at 1 week of age were randomly assigned to one of the four groups viz. Control ( C ), Virus infected ( V ), *Withania somnifera* supplemented ( WS ), and *Withania somnifera* supplemented and virus infected ( WV ). Birds of groups WS and WV started to receive *Withania somnifera* root powder (WSR) at 1% of the feed. At 4 weeks of age, birds of groups V and WV received a total of 0.25 mL viral suspension ( $1.7 \times 10^4$  TCID50 of IBDV) through oral, intraocular, intranasal, and intra-cloacal routes; the birds of groups C and WS were mock infected with buffered saline. Four birds from each group were randomly selected and exsanguinated on days 3, 5, and 7 post-infections. A 249-bp fragment of vp2 gene of IBDV was amplified using RT-PCR technique and visualized by electrophoresis in ethidium bromide-stained 1% agarose gel. The relative semi-quantification was performed using integrated densitometric values (IDV) and evaluated.

### RESULTS



### Relative semi-quantification of viral load in bursae on the seventh day postinfection

IDV of RT-PCR product of 249-bp fragment of VP2 RNA was used for the relative semi-quantification of viral load; IDV of RT-PCR product of β-actin transcript served as control.

#### CONCLUSIONS

Viral load decreased to less than one-fourth in the birds receiving dietary supplementation with *Withania somnifera* root powder.

#### OUTCOME

These findings could be due to induction of stronger immune response in broiler birds supplemented with *Withania somnifera*.

#### Reference:

Ganguly B, Mrigesh M, Chauhan P et al. Dietary supplementation with *Withania somnifera* root powder ameliorates experimentally induced Infectious Bursal Disease in chicken. Trop Anim Health Prod. 2020;52(3):1195-1206.