

Immunomodulatory Potential of PHYTOCEE® in Shrimp

OBJECTIVE

To assess the immunomodulatory effects of PHYTOCEE® in white leg shrimp *Litopenaeus vannamei*.

MATERIALS AND METHODS

The experimental shrimp *Litopenaeus vannamei* were reared in pond (9.6*40*1.2 m) under standard rearing conditions. The shrimps were divided in to 6 groups viz. G1-Normal control (Basal Stay C, 500 g/ton), G2-Positive control (Basal + Top up Stay C, 500 + 1000 g/ton). G3, G4, G5, and G6 groups were supplemented with PHYTOCEE® at 100% replacement of top-up Stay C, 50% of top-up Stay C, 50% replacement of top-up Stay C, and 75% replacement of top-up Stay C respectively. The duration of treatment was 60 days. The immunological assays viz. total haemocyte count and phenoloxidase were evaluated.

RESULTS

Effect of PHYTOCEE® on immunomodulatory parameters

Groups	Total Haemocyte Count THC (X10 ⁵) cells per mL	Phenoloxidase Assay (OD @ 490 nm)
G1-STC (500 g/ton)	188	0.10
G2-STC (1500 g/ton)	220	0.14
G3-STC + PHY (500+1000 g/ton)	216	0.13
G4-STC + PHY (500+500 g/ton)	248	0.14
G5-STC + PHY (1000+500 g/ton)	256	0.14
G6-STC + PHY (750+750 g/ton)	284	0.15

STC, Stay C; PHY, PHYTOCEE®; THC, Total haemocyte count

CONCLUSIONS

75% replacement of top-up Stay C with PHYTOCEE® resulted in better impact on immunological assays in *Litopenaeus vannamei* than other combinations studied.

OUTCOME

Hence, supplementation of PHYTOCEE® along with Stay C at 750 g/ton each could be suggested for better immunomodulatory effects in *Litopenaeus vannamei* under standard rearing conditions.