PHYTOCEE®

Immunomodulatory Potential of PHYTOCEE® in Shrimp Reared Under High Stock Density Stress

OBJECTIVE

To evaluate the immunomodulatory potential of PHYTOCEE® in shrimp (*Litopenaeus vannamei*) reared under high stock density stress conditions.

MATERIALS AND METHODS

The experimental shrimp were reared under standard rearing conditions. 30 shrimp/aquarium and 45 shrimp/aquarium were reared as normal and high stock density stress conditions respectively. The shrimps were divided in to 9 groups based on different combinations of Vitamin C and PHYTOCEE® as follows; G1-1000+0 g/ton (Vit. C+PHYTOCEE®), G2-1000+1000 g/ton, G3-750+1000 g/ton, G4-500+1000 g/ton, G5-250+1000 g/ton, G6-0+1000 g/ton, G7-2000+0, G8-1000+2000 g/ton, G9-0+2000 g/ton. The duration of treatment was 8 weeks. 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 (unit/min/mg protein)
G1-VC+PHY (1000+0 g/ton)	32.80	160.52
G2-VC+PHY (1000+1000 g/ton)	34.80	168.53
G3-VC+PHY (750+1000 g/ton)	34.00	172.95
G4-VC+PHY (500+1000 g/ton)	33.40	176.09
G5-VC+PHY (250+1000 g/ton)	33.00	155.72
G6-VC+PHY (0+1000 g/ton)	32.60	163.23
G7-VC+PHY (2000+0 g/ton)	33.40	154.40
G8-VC+PHY (1000+2000 g/ton)	34.80	158.49
G9-VC+PHY (0+2000 g/ton)	33.40	155.97

VC, Vitamin C; PHY, PHYTOCEE®; THC, Total haemocyte count

CONCLUSIONS

PHYTOCEE® as a top-up (1 kg/ton) with Vitamin C (500 g/ton) resulted in better impact on immunological assays in shrimp than other combinations studied.

OUTCOME

Hence, supplementation of PHYTOCEE® along with Vitamin C could be suggested for better immunomodulatory effects in shrimp reared under high stock density stress conditions.