

DBT/ Abdul Hakeem College

Herbal Immunostimulant for shrimp to protect from WSSV infection

New Delhi, April 07: White spot disease (WSD) caused by white spot syndrome virus (WSSV) causes severe mortality in farmed shrimp worldwide. The loss due to WSSV has been estimated about Rs. 2000 crores per year in Indian shrimp culture industry. Various strategies including immunostimulation, neutralization, vaccination, quarantine and environmental management have been adopted to control the disease. The problem, however, persists resulting in heavy losses.

In an R&D project supported by Department of Biotechnology at C.Abdul Hakeem College, twenty terrestrial plants with previous record of antiviral activity against animal and human viruses were screened and their antiviral activity against WSSV was carried out.

Crude extract of one plant showed strong antiviral activity against WSSV. A series of laboratory and field trials were carried out in different parts of the country in association with an industry partner, M/S Poseidon Biotech Ltd. The technology has been transferred and crude extract of the plant has been commercialized under the brand name of "IMMUZONE". The Company has established an extraction unit to produce Immuzone at Karamadai, near Coimbatore as product is in great demand among the shrimp farmers.

The plant extract acts as an Immunostimulant in shrimp by increasing the defensive mechanism of the animals by way of enhancing hemocytic activities of shrimps. This is evident from the higher levels of Pro-phenol oxidase and nitric oxide in the shrimps after the ingestion of IMMUZONE while feeding. IMMUZONE improves health and growth of shrimp in ponds and protect from WSSV infection. Active compound responsible for antiviral activity in the crude extract of plant has also been identified.

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