

Harvesting Shrimps from EM4 Technology



Shrimp farming is not an easy thing. Mismanagement, shrimp can be dead before being harvested. Now is the time, farmers improve shrimp culture systems using EM Fisheries and Pond technology.

Nowadays more and more failures are found in shrimp farming due to the disruption of the aquatic environmental ecosystem and pond bottom due to the decay of leftovers, feces and dead shrimp bodies..

The pond application pattern with Effective Microorganism (EM4) technology, is a solution to improve the pond cultivation system, both ponds with traditional, intensive and polyculture systems which so far have been hard to search for answers to the problems they face. The problems faced, for example, slow shrimp growth, weak resistance and susceptibility to disease to death.

EM technology is a culture of liquid mixture of microorganisms consisting of five groups of microorganisms, namely photosynthetic bacteria (*Rhodospseudomonas* sp), lactic acid bacteria (*Lactobacillus* Spp), Actinomycetes, *Streptomyces* sp, fermented fungi (*Aspergillus*, sp) and yeast (*sacharomyces* sp)).

Microorganisms in EM can be applied to this freshwater fishery. It functions is to ferment organic material into non-toxic organic compounds. Changing the process of decay of organic matter into a fermentation process.

Application of EM for Pond Treatment

To process the pond with EM4 technology, the first step is drying the pond so that the pond bottom is sunburned, this drying aims to make pests such as snails, oysters, srintit, and bacteria that cause disease to die, and to improve the bio-chemical reaction of the soil (Redox) takes place well.

Then, the removal of the pond base and the improvement of the pond building aims to ensure that the pond base filled with the remaining organic material is removed and placed on top of the embankment and the improvement of the pond building. Furthermore, the pond area is dried in the sun for 2-3 days, then the pH of the pond base is checked to determine the calcification dose. Furthermore, ponds are fertilized, to increase the amount of natural food, this fertilization is done by using organic fertilizer (bokashi). Treat it during maintenance (water treatment), EM is very necessary. Likewise, when changing water, treat when feeding (sprayed into feed).

From the results of research conducted by PT. Songgolangit can be known EM4 can overcome water pollution due to accumulation of organic waste. In organic cultivation, eradication of pests and diseases is done with natural pesticides, such as saponins derived from tea cakes. Generally the saponin content in tea cakes in Indonesia ranges from 10-15%, saponins are used as poisons and their use dose is between 150-200 kg per ha. The use of saponins will be effective during the day at around 12.00 - 14.00, the toxicity will increase with increasing salinity.

Another advantage of using EM4 technology is that it can improve durability, ferment residual feed, dirt and shells at the bottom of ponds, also decompose ammonia, methane and hydrogen sulfide that can disrupt shrimp life.

EM4 is also able to increase dissolved oxygen (DO) so that the water becomes clean and does not need to replace water repeatedly because water quality is maintained and is safe for the environment. To boost production results, the condition is that water in the pond must be protected from chemical pollution. While overcoming the pollution of water itself the key is only with EM processing pond technology. Why? Because EM acts as a stabilizer of the pond bottom soil environment which takes place naturally due to the fermentation process. Therefore, EM technology is very appropriate to be applied to overcome this problem. (A)