

2

IMPROVING SHRIMP GROWTH

IMPROVING SHRIMP GROWTH BY 50 PERCENT WITH NEW INNOVATION

by Mrs Sofia Zenagui, Global Specialty Brand Manager, Adisseo

A trial performed in India demonstrates that adding Selisseo®, hydroxy-selenomethionine, to the diets improves the growth of shrimps by more than 50 percent after 85 days of culture.

Selisseo® is the new pure form of organic selenium, hydroxy-selenomethionine, developed by Adisseo. It is highly efficient in promoting the functional form of selenium, selenocysteine. Selenocysteine is indeed the key constituent of selenoproteins that play a major role in the maintenance and regulation of antioxidant systems.

Such source of organic selenium provides animals with enhanced stress resistance and optimal growth performance. Its efficacy has been demonstrated by more than 25 studies conducted across species: broilers breeders, piglets and dairy cows.

A new trial carried out under supervision of Dr. Antony Jesu Prabhu, in India, also proves its better efficiency on shrimps (*Litopenus vannamei*) when compared with sodium selenite.

Three dietary experimental treatments were distributed in commercial shrimp culture ponds: Negative Control (NC, no added selenium), Positive Control (Na selenite) and Test (Selisseo®). In both Positive Control and Test diets, the same level of additional Se (0.25 mg/kg feed) was given as one meal per day, from 10 days of culture. The total and supplemented Se levels in the feeds are represented in Figure 1.

After 34 days of culture, the shrimps receiving the Selisseo®

treatment were 20 percent and 24 percent heavier than the ones receiving no selenium (NC) or Na selenite (PC): 3.8g versus 3.2g and 3.1g per shrimp, respectively. At 50 days, the growth rate was further improved in the Selisseo® group, reaching 30 percent and 20 percent difference compared with the negative and positive controls respectively; and at 64 days, those differences reached 54 percent and 35 percent (Figure 2).

The shrimps receiving Selisseo® were harvested with a body weight 59 percent superior to the control groups, after 85 days of culture (Figure 2). It should be stated that, due to some extrinsic factors, the overall growth of shrimps in the trial was lower than standard growth rates normally achieved. However, Selisseo® was able to promote shrimp growth even under unfavorable culture conditions.

Furthermore, the author notes that, the ponds where shrimps received Selisseo® had either no or very little accumulation of sludge in the bottom. Dr Prabhu comments “This is a quite unexpected but positive observation in terms of pond management, knowing that sludge removal is a very critical operation in the middle stages of a culture activity.” This positive effect on pond management might be due to the silica which is used as a filler in Selisseo®.

About the author

Dr. Antony Jesu Prabhu has a dual PhD degree in fish mineral nutrition from Wageningen University, Netherlands and INRA-AgroParisTech, France. He is the recipient of ‘Médaille d’Argent de l’Académie’, an award of high honour from the French Agriculture Academy. He is presently a post-doc research scientist at NIFES, Norway and served as assistant professor at Tamil Nadu Fisheries University, India before moving to Norway.

Figure 1: Feed selenium contents before and after supplementation

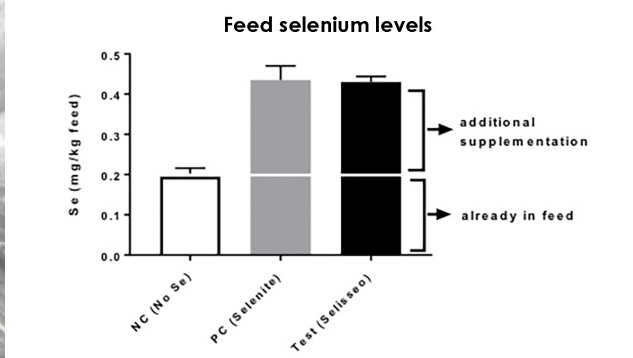


Figure 2: Evolution of liveweight of shrimps during the culture period

