**Product News**

# New hope for grouper fingerlings! Everlight Electronics and the National Taiwan University's team have developed LED lamps especially for groupers!

**Shulin, New Taipei City – Nov 4, 2020 –** The world's leading manufacturer in the LED optoelectronics industry, Everlight Electronics Co., Ltd. [TSE: 2393] Everlight cooperated with Professor Wang Yong-song's team of the Institute of Fisheries Science, National Taiwan University to successfully develop a special LED lamp for groupers, and provided it to fishery operators for experimentation. By exposing fingerlings under the special lamps, the cannibalism of grouper fingerlings is greatly reduced, reducing the loss of fingerlings by more than 40% and successfully doubling the survival rate of cultured fingerlings.

Taiwan is known as the grouper kingdom, with an annual production of over 20,000 metric tons. According to the Fisheries Agency's statistics in 2018, the output value of Taiwanese groupers reached NT$5.09 billion. However, in recent years, due to raging diseases and abnormal weather, the breeding rate of grouper fingerlings is only 0-20%, a bottleneck difficult to overcome at present.
At present, the cannibalism of grouper fingerlings is the most difficult problem that fishery operators need to overcome. 20~60 days after hatching, grouper fingerlings will attack the smaller or sick ones due to the groupers' mutual cannibalism, causing both fingerlings to die. In severe cases, it may cause a loss of more than 50% of fingerlings.
In the past, in order to increase the breeding rate, it was necessary to manually use sieves to separate grouper fingerlings into 3-5 ponds by their sizes. This operation needs to be repeated every two to three days, and the frequent separating pools and screening process not only consumes manpower, but also damages fingerlings' periphery, causing great oppression to the fish and increasing the chance of grouper virus outbreaks.

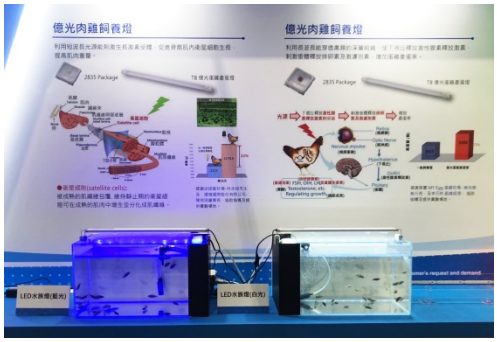
The Everlight team has recently expanded the illumination to biological agriculture applications such as animal husbandries and aquaculture fisheries, and applied the wavelength adjustment technology of LED full spectrum to poultry, fish and shrimp aquaculture, developing special lamps that can effectively reduce the cannibalism of grouper fingerlings. The research results of Professor Wang Yong-song's team at National Taiwan University show that the survival rate can reach 85% by exposing fingerlings under the special lamps, while the survival rate of the natural light group is only 65%. The study finds that fish exposed to the specific wavelength light source has a lower cannibalism rate, which also reflects a higher survival rate compared to other wavelength light sources. A fishery operator said: "In the past, in order to reduce fingerlings' cannibalism, we blocked all the light in the culture fishery. Not only did the fingerlings grow slowly, but also caused other diseases. In the end, the fingerlings still cannibalized each other. After installing the special lamps, the loss of fingerlings is greatly reduced and the operation becomes easier."

Technologies are used to increase the income of fishery operators and create a win-win situation for farmers and the environment. The use of light as a technology development or preventive disease resistance in the aquaculture industry has many advantages. This technology reduces the loss of grouper fingerlings due to cannibalism in a non-contact manner, and the operation is simple and safe, avoiding the risk of diseases derived by injuries on body periphery and reducing the manpower expenditure for manual screening. In the future, the application possibilities of other aquaculture species can be explored for the biological seedlings of other cannibalizing species, so as to increase the income of fishermen and create new success for Taiwan's aquaculture industry.

We are participating in the 2020 Asia Agri-Tech Expo & Forum, with the related companies in agricultural Internet of Things (IoT), agricultural remote monitoring systems, drone spray irrigation equipment, environmental control and temperature control equipment, agricultural sensors and drive systems, inspection equipment and instruments , image growth and disease and pest identification system, water resources management, and traceability systems and services participating in the grand event. You are welcome to Everlight's booth to browse and exchange communication (Booth No. 325/K).

Name of the exhibit：2020 Asia Agri-Tech Expo & Forum
Date：2020/11/5-11/7
Time：11/5(Thursday)-11/7(Saturday) 09:30-17:00
Location： Taipei Nangang Exhibition Center, Hall 1- Taipei, Taiwan
Booth No.：325/K

( Source: EVERLIGHT ELECTRONICS CO., LTD )






**About Everlight Electronics**

Everlight Electronics was founded in 1983. With more than 37 years of solid strength in the LED industry, it integrates professional R&D, business and marketing teams, and is guided by customer needs to provide complete and total solutions for various applications. The product line includes High Power LEDs, SMD LEDs, Lamps, Lighting Components, LED Lighting Modules, Digital Displays, Opto-couplers, Infrared Components, etc. Customers can choose the most suitable packaging products at Everlight according to the needs of their own application products. Only using suitable LEDs can achieve the best efficiency and quality performance of the application products. Over the years, Everlight has adopted the spirit of "working together, moving forward, and fighting unremittingly," and has ranked among the top 6 in the global LED market. Everlight will continue to develop LED products with more diverse applications and provide customers with a variety of impeccable product solutions, creating a win-win future!
To learn more about LED related products, please visit www.everlight.com; for press contact: pr@everlight.com